

Using synthetic voices to facilitate the communication of patients with laryngectomy

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Scientific context:

- The loss of natural verbal communication is a major problem with dramatic implications for the individual's life
- Synthetic voices generated through technological means are a considered a possible solution for patients that underwent total laryngectomy. Although previous studies have investigated how synthetic voices are perceived by the general population, it is still unclear whether these voices are perceived differently than those generated through standards methods of vocal rehabilitation.

Objectives:

- Given the impact that these perceptions might have on the quality of the social interactions of these patients, we aimed to analyze comparatively the perceptions of healthy people upon synthetic and prostheses generated speech.
- We aimed to test the impact of psychosocial factors that could affect the perception of voices (i.e., context of the interaction and the emotional valence of the message being communicated).

Methods:

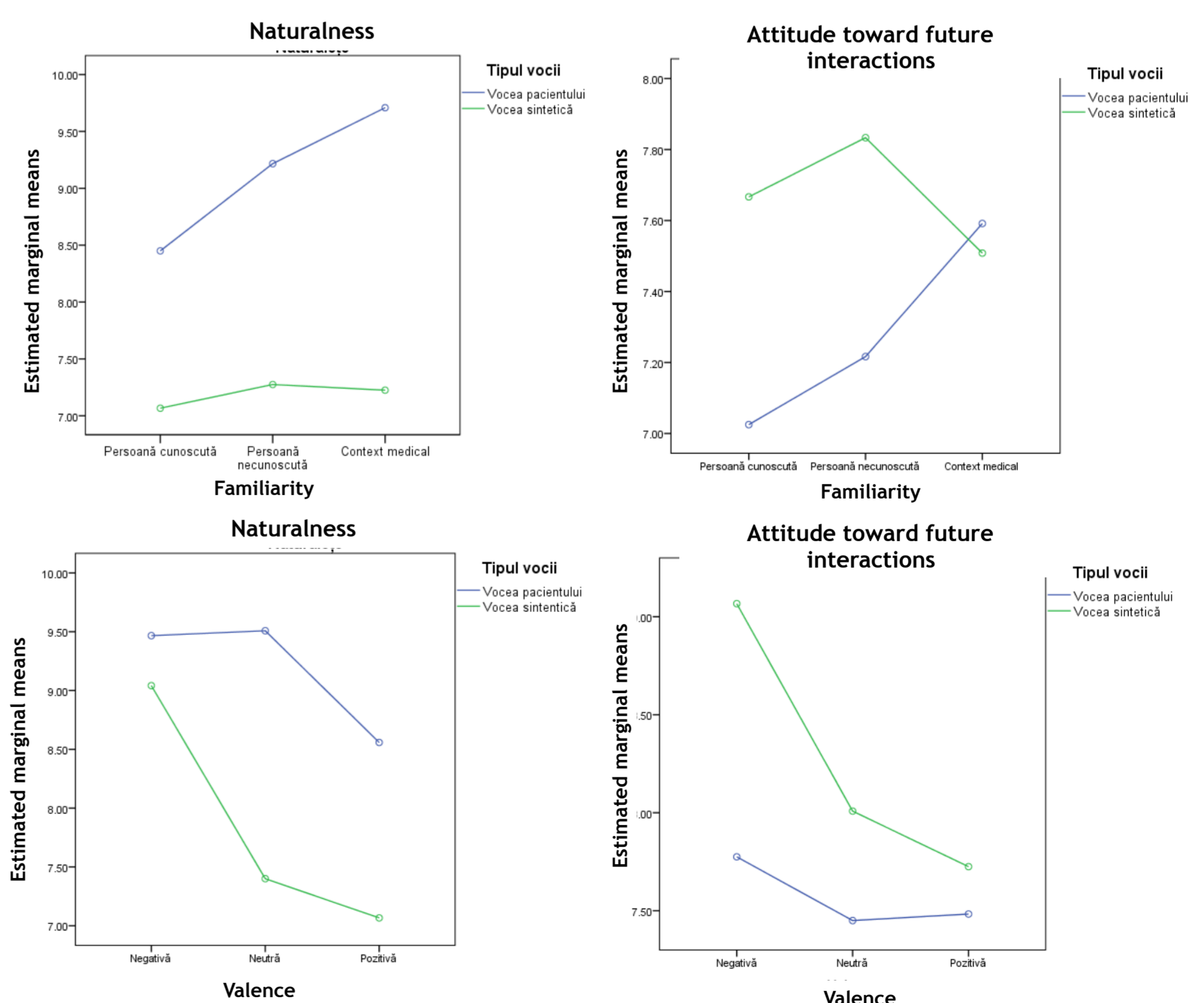
- Thirty two participants from the general population (87.5% female), ranging in age from 18 to 45 years old ($M = 23.34$), who identified themselves as physically and mentally healthy, managed to complete the protocol.

Methods:

- Participants rated: the naturalness of the voice and expressed their attitude toward future interactions with such a voice.

		EMOTIONAL VALENCE		
		Positive	Negative	Neutral
F A M I L I A R I T Y	familiar	Thank you! You are sweet for helping me to solve the problem. How could I return the favor that you've done for me?	It's amazing what you did! It was very important for me. Why do you have to let me down every time?	Let me ask you something. It's mealtime. What would you like to do? Do you eat now, or later with me?
	unfamiliar	Thank you! You are a special person for helping me to solve the problem. How can I reward you for the noble gesture that you made?	I cannot believe what you did! It was very important for me. Why did you choose not to help me?	I want to ask you something. Would you like to have lunch together or will you have lunch later?
	medical	Thank you! You are a very good doctor, if you managed to help me. How could I repay you for the good you have done for me?	I can not believe what's happening to me! I hoped that you would make me feel better. You really cannot do something that works?	I want to ask you something. It is nearly lunch time. Should I take the pill before or after I eat?

Results:



Discussion and conclusion:

- The perception of synthetic voices as compared with classical methods of voice assistance, depends on emotional content and the nature of the relationship between the two interaction partners.

Acknowledgement

The research leading to these results has received funding from the Romanian Ministry of Education under the grant agreement PN-II-PT-PCCA-2013-4-1660 (SWARA).