Lexical, Phrase, and Contrastive Stress: Similarities and Differences

Jinnie Pang, Sten Knutsen, Sue Peppé, Karin Stromswold
Department of Psychology, Department of Cognitive Science, Rutgers University – New Brunswick
Contact: pangjinnie@gmail.com, sten.knutsen@rutgers.edu, karin@ruccs.rutgers.edu

BACKGROUND
• Prosodic stress serves many functions:
  • It can be used to distinguish between lexical items
    • e.g., the verb “inSERT” and the noun “IN’sert”
  • Different types of phrases
    • e.g., the noun “greenhouse” and the adjective-noun “green house”
  • Contrastively to respond to a previous utterance
    • e.g., “Do you want the pumpkin pie? No, I want the APPLE pie”
• Previous research has explored lexical, phrase and contrastive stress [1-3]
• However, little work has investigated the extent to which they are related to one another

METHODS
Participants: Sixty-eight native English-speaking undergraduate students (48 female, 20 male)

Procedure:
• Online Profiling Elements of Prosody in Speech Communication (O-PEPS-C), an online adaptation of the in-person clinical CPEPS test (Peppé et al., 2003) includes tests of prosodic form and function
• Production accuracy was judged by 4 research assistants
• Mean accuracy was used
• Tests assess comprehension and production of:
  • form
  • affect (like/dislike)
  • question/declarative
  • phrase boundaries (e.g., “chicken, fingers and fruit” vs. “chicken fingers and fruit”)
• 3 types of stress subtasks:
  1. Lexical stress subtask: participants listen to and produce pairs of words that differ minimally in stress (See Fig.1).
  2. Phrase stress subtask: participants listen to and produce minimal pairs of phrases in stress
    • e.g., “The green house” vs “The greenhouse spoils the view”
  3. Contrastive stress subtask: participants used contrastive stress to “correct” an utterance
    • e.g., they hear “the green cow has the ball,” but the computer screen displays a green sheep with a ball, they might say “No the green SHEEP has the ball” (See Fig. 2)

RESULTS
• Our results suggest that:
  • Those successful at producing prosody are better at interpreting it
  • Production/comprehension link is stronger for prosodic stress than other uses of prosody.
  • However, correlations are moderate at best
  • Argues against a motor theory/analysis through synthesis model of prosody
• People who are proficient in one type of stress tend to be proficient in the other two types of stress (both production and comprehension)
• However, the relationships among the different types of stress are not perfect
• Within linguistics, lexical stress, phrase stress and contrastive stress are different from one another in terms of their:
  • acoustic realization
  • function
• The weak to moderate stress correlations is consistent with these differences in acoustic realization and linguistic function being psychologically real

REFERENCES

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