

Fachbereich 11: Human- und Gesundheitswissenschaften Studiengang Psychologie (Bachelor)

Exposé

Eingereicht von: Bachelorarbeit im Bereich: Neuropsychologie Betreuung durch: Professor Dr. Dr. Manfred Herrmann Diplom-Psychologin Charlotte Herzmann

Title und thematic enclosure

"Aphasia and Theory of mind"

In the debate about the neuronal correlates of Theory of Mind processes, much research has been carried out to establish and evaluate different theories. One main domain concentrates on the interface of language and Theory of Mind. There are two approaches, one concerned with the developmental aspects of ToM in the context of language and language acquisition and one with the possible role of language in the maintenance of a mature ToM. The latter may be observed by examining aphasic patients with a left hemisphere stroke. The presentation of the current state of research in this field as well as contrasting the different positions and a critical reflexion are the purposes of this bachelor thesis.

Objective und Focus

The thesis wants to present the different approaches to the nature of Theory of Mind processes, illustrated through the supposed neuronal correlates identified so far, thereby giving a general overview of the topic. In a next step, the interface of language and Theory of Mind will be outlined, first showing the conclusions of research projects investigating the developmental course and then – as the main part – presenting the findings concerning the impact of aphasia on Theory of Mind. In the end, the approaches on the linguistic role in Theory of Mind development in children will be compared to the findings in aphasic patients to show what can be concluded from the latter.

Methodological implementation

After a brief summary of the components of Theory of Mind, the thesis will demonstrate the current results of different areas of research concerning the theory in general. In a next step, it will continue with the – sometimes controversial – results of research projects investigating the processes in deaf children. These projects try to make out the connection between the progresses in language acquisition and their Theory of Mind development. The purpose of this is to present the assumptions about a possible correlation between language and Theory of Mind and the directional nature of such a connection. The main part will then present empirical findings with aphasic patients undergoing (several) Theory of Mind and language tests. The point of this way of illustration is to consider the findings of deaf children in a different light, showing - amongst other intriguing aspects - how some assumed correlations might, in a mature Theory of Mind, be separated from language skills. Finally, the two approaches are put in a common context and an overall critical evaluation of research in this field will be given with subsequent suggestions for future research proposals.

Structure

- 1. Theory of Mind A brief illustration
- 2. Research theories: What ideas are there about the neuronal correlates of Theory of Mind?
- Language and Theory of Mind Two Approaches
 3.1. Developmental research with deaf children
 3.2. Main part: Aphasia and Theory of Mind
- 4. Conclusion: How does language influence Theory of Mind?
- 5. Reflection of the applied methods to test Theory of Mind
- 6. Future research: Suggestion for future studies

Literature

- Apperly, I.A., Samson, D., Carroll, N., Hussain, S., Humphreys, G.W. (2006). Intact first and second-order false belief reasoning in a patient with severely impaired grammar. *Social Neuroscience*, *1*, *334-348*.
- Apperly, I.A., Samson, D., Chiavarino, C., Bickerton, W-L., Humphreys, G.W. (2006). Testing the domain-specificity of a Theory of Mind deficit in brain-injured patients: Evidence for consistent performance on non-verbal, "reality-unknown" false belief and false photograph tasks. *Cognition, 103, 300-321*.
- Apperly, A., Samson, D., Chiavarino, C., Humphreys, G.W. (2004). Frontal and temporo-parietal lobe contributions to Theory of Mind: Neuropsychological evidence from a false-belief task with reduced language and executive demands. *Journal of Cognitive Neuroscience*, *16*, 1773-1784.
- Bloom, P., German, T.P. (2000). Two reasons to abandon the false belief task as a test of Theroy of Mind. *Cognition*, 77, *B25-B31*.
- Figueras-Costa, B., Harris, P. (2001). Theory of Mind development in deaf children: Nonverbal test of false-belief understanding. *Journal of deaf studies and deaf education*, 6, 92-102)
- Frith, C.C., Frith, U. (1999). Interacting Minds A biological basis. *Science*, 286, 1692-1695).
- Hale, C.M., Tager-Flusberg, H. (2003). The influence of language on Theory of Mind: A training study. *Dev Sci.*, *6*, *346-359*.
- Happé, F., Brownell, H., Winner, E. (1999). Acquired "Theory of Mind" impairments following stroke. *Cognition*, *70*, *211-240*.
- van der Lely, H.K.J., Rosen, S., McClelland, A. (1998). Evidence for a grammarspecific deficit in children. *Current Biology*, *8*, *1253-1258*.
- Lohmann, H., Tomasello, M. (2003). The role of language in the development of false belief understanding: A training study. *Child Development*, 74, 1130-1144.
- Siegal, M., Varley, R., Want, S.C. (2001). Mind over grammar: reasoning in aphasia, deafness and development. *Trends in Cognitive Sciences*, *5*, 296-301.
- Siegal, M., Varley, R. (2006). Aphasia, language and Theory of Mind. *Social Neuroscience*, *1*, 167-174.
- Varley, R., Siegal, M., (2000). Evidence for cognition without grammar from causal reasoning and "Theory of Mind" in an agrammatic aphasic patient. *Current Biology*, *10*, *723-726*.
- Varley, R., Siegal, M., Want, S.C. (2001). Severe impairment in grammar does not preclude Theory of Mind. *Neuroscience*, *7*, 489-493.
- de Villiers, J. (2007). The interface of language and Theory of Mind. *Lingua*, 117, 1858-1878.