

How the Need for Status Influences Neural Activation Patterns of Reward Stimuli

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Social status is a big deal in today's society – and it always was. One reason for this can be found in the evolutionary history of mankind. Since ever social status is linked to benefits like attractive sexual partners, generous compensation or other privileges. Unsurprisingly companies are interested in offering rewards that increase a person's social status. Company cars as cultural objects are such rewards that signal wealth, social dominance and act as strong social reinforcers. Recently, it has been shown that reward mechanisms are involved in the regulation of social relations like dominance and social rank. For this reason we investigated the rewarding properties of different types of cars using event-related functional magnetic resonance imaging (fMRI) and linked them to the individual need for status. Based on evolutionary considerations we hypothesized that company cars are a strong signal for social status and would activate the human reward system stronger than normal cars. Furthermore, people with a high need for status should react more strongly to company cars than people who are less status oriented.

In total 45 (30 female, 15 male) right-handed, college-aged subjects participated in this study. Stimulus material consisted of two grey-scaled car images (company/normal), two grey-scaled arrow images (up/down) and 54 slightly different comparison-tasks. The need for social status was assessed with the social consumption scale of Eastman, Goldsmith, & Finn (1999). To present the most rewarding and punishing stimulus material, participants had to choose their most and least favored car manufacturer in a prescan. All car images were presented from a semi-frontal perspective and with empty background. Both groups of cars (company/normal) were comparable in form, size and price within its group.

We employed an event-related design consisting of two blocks and each block included 54 slightly different comparison-tasks: subjects had to differentiate between two scatterplots that were shown for 400 ms followed by a 3000 ms screen prompting them to judge whether the left or right scatterplot entailed more black dots. In the first block images of cars were shown after each trial and depending on the subject's performance either the company or the normal car was chromatically enframed. The second block was the arrow-control-task and its design was nearly the same like it was in the car setting, presenting images of arrows instead of cars this time. The purpose of the second block was to subtract neural

activation that arose from perceived joy due to giving the right or wrong answer. Because of adaptive testing the comparison-task was equally difficult for everyone in both blocks.

Preliminary behavioral results indicate that the presentation of cars yielded to faster response times than the arrow-setting – this seems to be especially true for people with a high need for status. Neurophysiological results suggest that highly status oriented people respond stronger to company cars than people with a low need for status do. Furthermore, company cars seem to elicit stronger activation patterns in certain reward areas (e. g. Ncl. Acc., Ncl. Caudatus) than normal cars and arrow-images. In short, preliminary results suggest that company cars are perceived as strong social rewards especially if a person's need for status is highly pronounced.

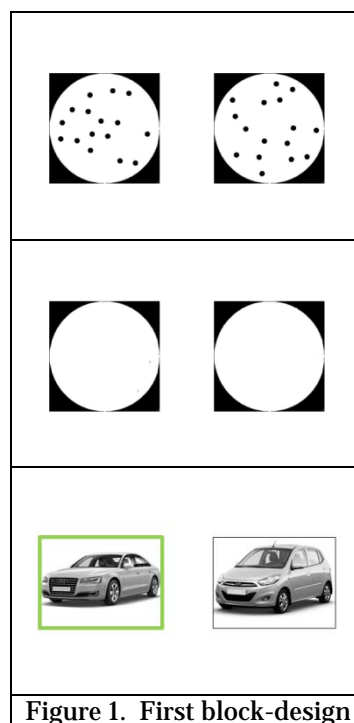


Figure 1. First block-design

REFERENCES

- ❖ Eastman, J. E., Goldsmith, R.E., and Flynn, L.R. 1999. "Status consumption in consumer behavior: Scale development and validation," *Journal of Marketing Theory and Practice* (7:3), pp. 41-52.