

Marlies Pinnow

Motivation Lab, Biopsychology, Institute of Cognitive Neuroscience, Faculty of Psychology, Ruhr-University Bochum, Germany

## Introduction

Do motives and motivation influence perception and recognition of the world? Although motives and motivation are known to adjust information processing to momentary needs or plans (cf. McClelland, 1995), only few studies focus thereby on the level of information processing which is modulated by motivation (early or late selection).

The aims of our study were to determine whether stimuli which cannot be detected consciously may nevertheless influence subjects' choices, and whether such an effect is dependent upon stimulus motivational quality, motive disposition and motivational arousal. Our strategy was to use a method introduced by Henke, Landis & Markowitsch (1994) which was created to investigate cerebral asymmetries in subliminal perception.

## Methods

The subjects' performance (n=16) on the recognition of motive congruent material was tested either under aggression arousal or under achievement arousal (induced by film clips: a jail revolt and a formula-1-race). In the two conditions the motive disposition was assessed by using TAT.

Every arousal condition has been tested separately in two sessions. Each of the two sessions consisted of ten recognition trials including five achievement-related and five



aggression-related words. Stimulus words were presented subliminally (5 X 14ms). Subsequently subjects had to choose among ten items. The presentation of the different trials was randomized.



## Conclusions

The results reveal that the motivational disposition in a state of arousal already influences the processing of motive-related verbal information on a preattentive preconscious level. In a state of achievement arousal the recognition of thematically congruent material is enhanced, whereas it is impaired by aggression arousal. We regard the last finding as a support of Freud's thesis of an apperception defence mechanism.

References:

Henke, K., Landis, T., & Markowitsch, H.J. (1994). Subliminal perception of words and faces. *International Journal of Neuroscience*, 75, 181-187.  
McClelland, D.C. (1995). Achievement motivation in relation to achievement-related recall, performance, and urine flow, a marker associated with release of vasopressin. *Motivation and Emotion*, 19, 59 - 76.

## Results

### Condition

### Aggression

### Achievement

Aggression



Achievement



Film clips

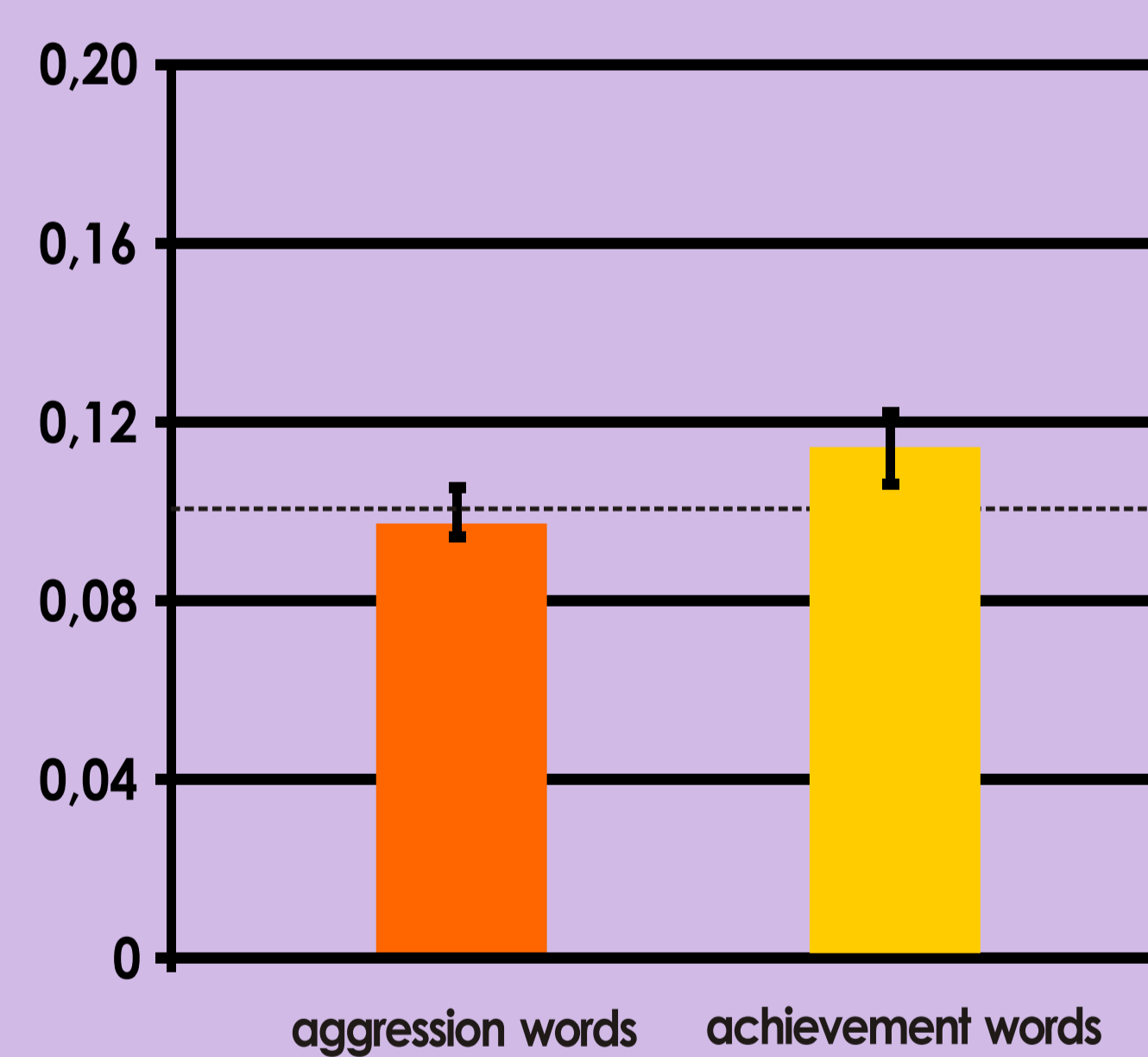
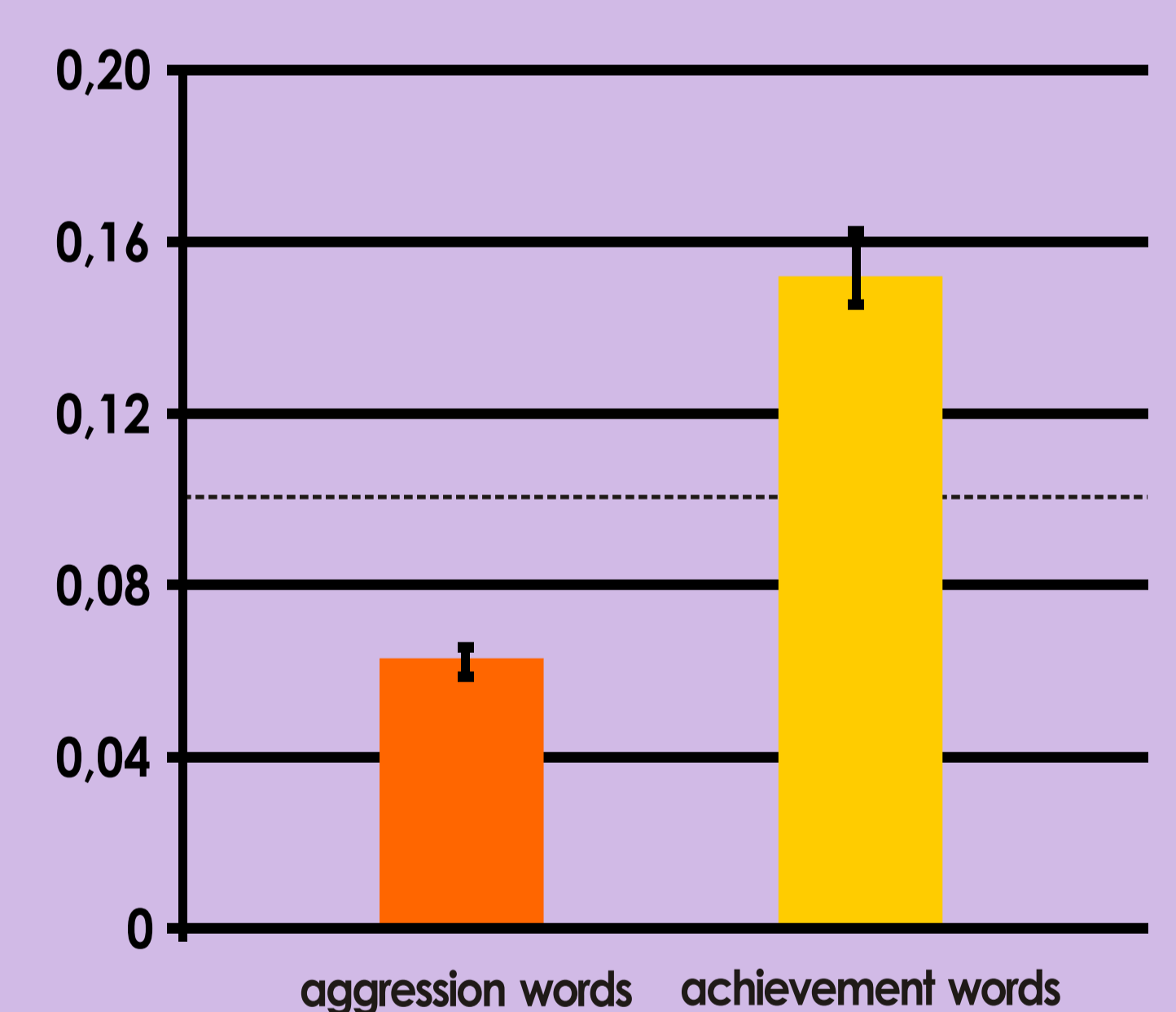
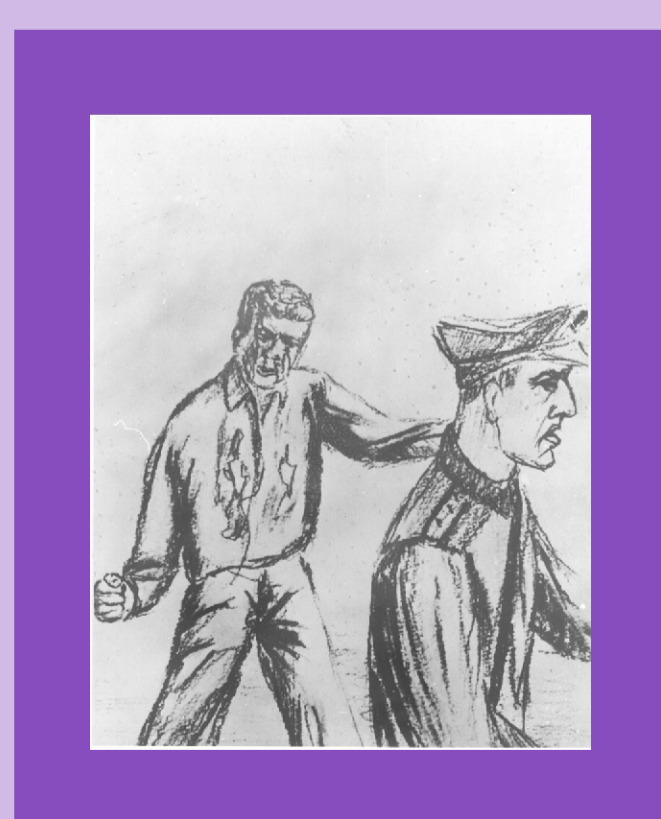


Fig. 1: Motivational arousal

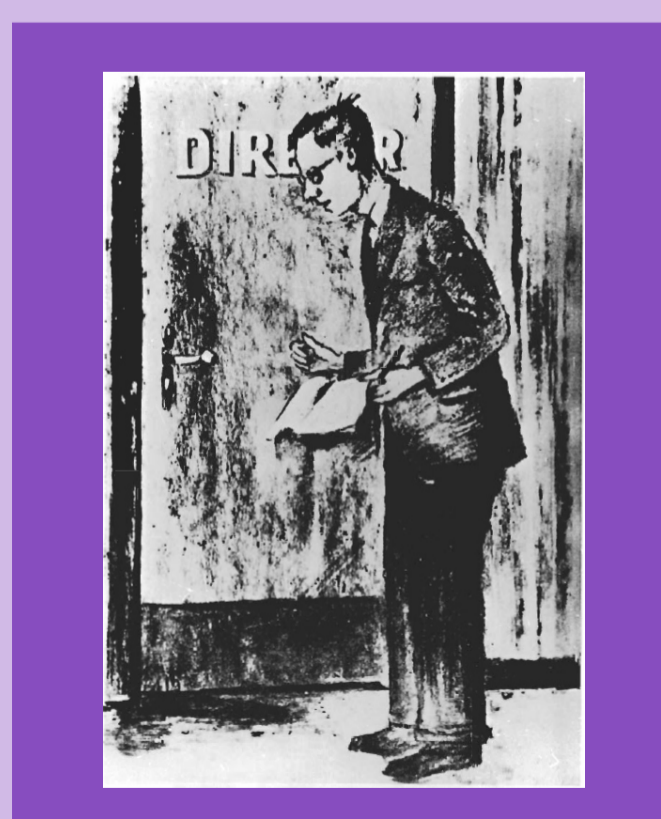
In the congruent condition, when motivational arousal and meaning of the words to be recognized are homotype, more words are identified correctly than in the heterotype condition. In the recognition test achievement-related words under achievement arousal are recognized better than aggression-related words; in contrast recognition performance aggression-related words under aggression arousal is significantly worse than the recognition of achievement-related words under achievement arousal.



Aggression



Achievement



Motives (TAT)

Tab. 1: Correlations of motive dispositions

Motive disposition	Type of the stimuli	
	Aggression	Achievement
Aggression	-.67	n.s.

Under achievement arousal the achievement motive correlates positively with the performance on achievement-related words but not with the performance on aggression-related words, whereas under aggression arousal the achievement motive correlates neither with the performance on achievement-related words nor with the performance on aggression-related words.

Motive disposition	Type of the stimuli	
	Aggression	Achievement
Achievement	n.s.	.53