

CONCURRENT CHANGES IN DISCRIMINATION PERFORMANCE AND CRITERION STABILITY IN THERMAL PAIN PERCEPTION. W.P.Lehmann*, S.Lautenbacher*, R.Hölzl* and F.Strian* (SPON: W.Zieglgänsberger), MPI für Psychiatrie, Neurol.Poliklinik, Munich, FRG

824 Poster
Fri Room 3
Board 147

Interpretation of sensory decision theory (SDT) data depends strongly on the assumption that discrimination and decision bias are influenced by separate psychological variables. This claim has recently been challenged. Using a new approach to define the individual cutoff between innocuous and noxious thermal stimuli, changes of discrimination performance and criterion stability during a two-hour experiment were studied.

14 volunteers were asked to rate 60 thermal cutaneous stimuli on a 9-point rating scale. An anxiety inducing (N=7) vs a neutral instruction was applied before the last block of 20 trials. The Method of Subjective Sensitization (PAIN 1985, pp.369-378) was used to calculate a corrected estimate of the cutoff temperature between painful and nonpainful stimuli. This was based on data of a previous experiment deriving the psychometric function between tonic and phasic pain. The estimation was repeated every 20 trials.

Analysis was performed separately for nonpainful (NP) and painful (P) stimuli. In the P condition discrimination quality and criterion stability both decreased over the session. In the NP condition an improvement of discrimination and a curvilinear pattern of criterion stability were found. Anxiety also had different effects depending on stimulus intensity (P:reduction, NP:improvement of discrimination).

Standard SDT-assumptions such as independence of discrimination and decision bias appear invalid in the context of pain experiments. Conflicting reports concerning the effects of psychological variables (eg anxiety) on these measures may be explained by common processes (eg attention, activation) determining both discrimination performance and the stability of the decision criterion.