

(128.98 to 139.73 mmHg), HR (66.51 to 76.93 bpm), \dot{Q} (6.26 to 7.41 l/min), and RR (13.98 to 16.93 cpm), and a significant decrease in PEP (111.78 to 95.67 ms). Tukey HSD post-hoc analyses indicated sustained effects for these variables over the duration of the task. P_{ET-O_2} , although showing an increase from resting levels, did not reach significance until minutes 4 and 5 of the RT task. P_{ET-CO_2} , SV, and DBP, although yielding significant unadjusted F ratios, failed to meet significance under the Greenhouse-Geisser correction factor for repeated measures. These results lend support to the contentions of Langer et al. (1985) that an aversive RT task induces a sustained beta-adrenergic effect on HR with only small increases in SV yielding significant increases in \dot{Q} for the duration of the stressor event. Additionally, only a small nonsignificant biphasic trend was seen for P_{ET-CO_2} .

Cuthbert, B.N.¹, Melamed, B.G.¹, Cook, E.C., III², McNeil, D.W.³, & Lang, P.J.¹ (¹Center for Research in Psychophysiology, University of Florida; ²University of Alabama-Birmingham; ³Oklahoma State University) **Phobic imagery and the assessment of anxiety disorders.** The present study investigated psychophysiological responses of anxiety disorder patients during pre-treatment imagery of phobic and control material. The research, guided by a theoretical model emphasizing the associative memory network governing phobic behavior, was designed to study the organization and severity of the associative networks in different diagnostic groups.

Subjects were 38 patients diagnosed as having simple phobia ($n=13$), social phobia ($n=14$), or agoraphobia with panic attacks ($n=11$). Following initial intake sessions, heart rate (HR) and skin conductance level (SCL) were recorded while patients imagined personal phobic and other control material. Results indicated that the HR and SCL responses to phobic scenes were largest for simple phobics, next largest for social phobics, and smallest for agoraphobics. For simple phobics, magnitude of response was positively related to a questionnaire measure of imagery vividness; this correlation was weaker for social phobics, and non-existent for agoraphobics. Other differences between diagnostic groups were observed for various concordance measures. For simple phobics, subjective affective reports of lower valence, higher arousal, and lower dominance during phobic imagery were associated with greater HR response. However, these correlations were all nonsignificant for social and agoraphobics. Similarly, HR and SCL responses to phobic material were highly related to questionnaire measures of generalized anxiety for simple phobics, but not for patients in the other two diagnostic groups. These results were interpreted in terms of potential differences in the situational specificity and coherence of the associative networks presumed to underlie the expression of phobia.

Daum, I., Channon, S., & Gray, J.A. (Institute of Psychiatry, Department of Psychology, De Crespigny Park, Denmark Hill, London, UK) **Electrodermal responding in patients with temporal lobe lesions.** Previous studies reported an association between brain damage and increased electrodermal activity, particularly on the side contralateral to the lesion. Lesions to the amygdala were found to result in decreased orienting responses in animal studies. The present study investigated the effect of amygdala lesions on electrodermal responding within a discrimination conditioning task.

Two groups of patients with unilateral left or right temporal lobectomy (which included the removal of the

amygdala) and a group of control subjects were presented a random sequence of reinforced trials (4-s signal light (colour 1) followed by a tone overlapping with an airpuff to the eye) and unreinforced trials (4-s light (colour 2) followed by a tone without puff). Skin resistance was recorded from the index and middle fingers of the left hand in all subjects (i.e. ipsilateral recordings for left lesion patients, contralateral recordings for right lesion patients).

The three groups did not differ with regard to basal skin conductance level. Left temporal lesion patients had a tendency to show fewer orienting responses to the first presentation of a stimulus sequence when compared to controls ($p<.13$).

Patients with contralateral recordings had a significantly higher number of conditioned responses to the tone on reinforced trials than patients with ipsilateral recordings ($p<.05$). Patients with left, but not with right temporal lesions showed poorer discrimination than controls ($p<.05$).

The results will be discussed with reference to the influence of focal brain lesions on electrodermal responding.

Davidson, R.J., Chapman, J.P., & Chapman, L.J. (University of Wisconsin-Madison) **Task-dependent EEG asymmetry discriminates between depressed and non-depressed subjects.** The present study was designed to examine performance and activation asymmetries in response to verbal and spatial tasks in depressed and non-depressed subjects.

Twenty-four subjects who scored 20 or more and 24 who scored 6 or less on the Beck Depression Inventory were tested. The groups were matched on age and sex and all subjects were right-handed.

Subjects were presented with a word finding task and a dot localization task in randomized order. The tasks were closely matched on distribution of item difficulty as well as on mean and variance of difficulty and coefficient alpha reliability. EEG was recorded from the left and right frontal, central, temporal, and parietal regions ($F_3, F_4, C_3, C_4, T_3, T_4, P_3, P_4$) referenced to C_2 . EEG data were digitized and Fourier transformed, and power density in the alpha band was computed.

The results revealed a highly significant Group \times Task (verbal/spatial) interaction for the performance data. Depressed subjects performed better on the verbal task and worse on the spatial task than did the controls. Parietal EEG paralleled the performance data and also revealed a highly significant Group \times Task interaction on a measure of asymmetry (Log R minus Log L alpha power). Non-depressed subjects showed significantly more left-sided activation in response to the verbal than to the spatial task, while depressed subjects showed the reverse pattern.

Davis, M.R. (University of North Carolina at Chapel Hill), **Langer, A.W.** (Syracuse University), & **Gelling, P.D.** (Upstate Medical Center, Syracuse, New York) **Cardiac interoception and cardiovascular reactivity to psychological stress.** Katkin (1985) has proposed that individual differences in interoceptive sensitivity to heartbeats reflect differences in sympathetic activation, such that greater sympathetic activation contributes to the perceptibility of the cardiac interoceptive signal. On day 1, 44 male subjects were given 3 blocks of 25 trials in a heartbeat detection task previously described by Davis et al. (1986). On day 2 subjects participated in a reaction time avoidance task previously determined to elicit beta-adrenergic activity. Cardiac perception was negatively correlated with pre-task heart rates on day 2 ($r=.37, p<.002$), but not on day