Volume 12
Number 2, Part I

to amphetamine for physiologic and subjective measures as well as enhanced epinephrine

BG scale	*Subjects' liking*	*Observers' liking*	*Caloric intake*	*Sleep time*	*Urinary epinephrine*
1.68* (1.14-2.30)	1.16† (0.77-1.82)	1.22† (0.89-1.12)	1.19† (0.80-1.83)	1.45† (0.93-2.58)	2.34† (0.99-54.8)
0.31* (0.21-0.42)	0.22* (0.08-0.65)	0.33* (0.26-0.41)	0.43* (0.23-0.81)	0.25† (0.12-0.44)	0.21† (0.04- 0.46)
0.58* (0.45-0.80)	0.59* (0.46-0.82)	0.58† (0.42-0.80)	1.05* (0.64-1.83)	0.52* (0.22-1.39)	0.75† (0.38- 2-16)
0.17* (0.11-0.24)	0.21* (0.15-0.33)	0.21* (0.15-0.29)	0.19* (0.12-0.29)	0.07*	0.22†

parentheses are the 95 per cent confidence limits of the estimate. The omission of 95 per cent confidence limits indicates that at

for determining endogenous catecholamine content. Determinations on duplicate samples to which a mixed standard of epinephrine, norepinephrine, and dopamine were added prior to the hydrolysis were made to determine the efficiency of recovery of the method and to permit values to be corrected for standard recovery. Centrifugation of the specimens which is frequently necessary before the urine is applied to the alumina column was omitted in this experiment because a heavy precipitate was not produced in the dilute specimen; hence, there was no impediment to flow through the column due to this factor. Urinary creatinine was estimated according to the method of Peters.[21]

Results

Physiological changes. All drugs produced a dose-related increase in blood pressure (Fig. 2), and as can be seen from Table I there is good concordance between the potency estimates for systolic, diastolic, and mean blood pressures for all drugs. With one exception, the potency estimates were not significantly different from one another. The effects of ephedrine on diastolic blood pressure and systolic blood pressure were relatively less and greater, respectively, than the effects of amphetamine on these same parameters (Table I and Fig. 2).

Amphetamine, methamphetamine, ephedrine, and phenmetrazine had about the same relative potency in increasing respiratory rate as they had in elevating mean blood pressures. Although methylphenidate also produced a significant increase in respiratory rate, the slope of the dose-response relationship over the dose range studied was not statistically significant. The maximum increase in respiratory rate was significantly less than that seen following the highest doses of amphetamine, methamphetamine, and ephedrine.

All drugs produced significant increases in body temperature. The relative potencies and 95 per cent confidence limits for the three drugs in comparison to amphetamine in which the criteria for a valid assay were met are: ephedrine, 0.06 (0.00 to 0.11); phenmetrazine, 0.38 (0.01 to 0.51); and methylphenidate, 0.41 (0.20 to 0.65). As can be seen from Fig. 2, ephedrine was less potent in increasing body temperature than in increasing mean blood pressure and respiratory rate and in producing subjective changes. Although methamphetamine was quite effective at all dose levels studied in elevating body temperature,