GENERALISATION GRADIENTS AS A MEASURE OF STIMULUS CONTROL IN TWO-COMPONENT CHAINED SCHEDULES.

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ABSTRACT

The present thesis reports a number of experiments which measured the control each discriminative stimulus has on responding in a two-component chained schedule of reinforcement. In all experiments, generalisation gradients were utilised as the measure of stimulus-control in chained schedules. It was argued that generalisation gradients are a more sensitive measure than response rates in discrimination training, as each component stimulus may exert a different type of control on responding. Three indices of generalisation were derived: peak shift, generalisation index and asymmetry score. The asymmetry score was found to give more information on the generalisation gradient than the other two indices.

Variables which have been shown to be important in two-component chained schedules and in stimulus-control research, were evaluated. These were whether the stimulus used in preliminary training was made the initial or terminal component stimulus in discrimination training (Experiment 1), the component duration ratio (CDR) and interreinforcement interval (IRI) (Experiment 2), the training stimulus spacing along the test dimension (Experiment 3), the stimulus and response location (Experiment 4), interdimensional discrimination training (Experiments 5 and 6), and extended training (Experiment 7).

The results showed that the type of control the initial component stimulus has on responding is different from that of the terminal component stimulus. Generalisation gradients were a more informative measure of this difference than simple response rates within the chain. The gradients obtained following intradimensional discrimination training showed that the type of control was affected by the CDR, IRI and stimulus and response location. Interdimensional discrimination training also revealed gradients which indicated the difference in type of control the initial, compared to the terminal component stimulus, has on responding. The results were discussed in terms of the gradient interaction theory, conditioned reinforcement

and the "aversiveness" of the initial component. Some implications for token economies were also presented.

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