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The effect of training in noise on foreign language consonant acquisition

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Formal exposure to second language sounds normally takes place in clean, laboratory conditions, but at issue is the transfer of such learning to everyday situations. Categories learned in non-natural settings may be fragile, raising the question as to whether learning in noise leads to greater category robustness. The current study compared two groups of Spanish learners of English who were trained in either quiet or noise backgrounds on a 24 consonant discrimination task. Learners' performance was measured in pre- and post-tests and monitored over the course of nine weeks' training. Both groups showed continual improvement during training with similar overall gains of 6-7 percentage points, suggesting that training in adverse conditions is as effective as in quiet. Tests involving consonant identification in quiet and noise revealed no significant differences in pre-post improvement between the two groups. However, voiceless obstruents benefited more from training in noise while voiced obstruents experienced more improvement when trained in a quiet background regardless of the testing condition (quiet vs noise). The noise-trained disadvantage is consistent with masking of voicing in noise, while the quiet-trained deficit for voiceless obstruents may derive from overgeneralisation during the acquisition of new contrasts.