Supporting Information

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SI Results

Some aspects of our experimental results could be explained by supposing that the upper spectral edge of the lower tab, and the lower spectral edge of the higher tab, induce a sensation of pitch. These edges are not physically present when the masker is added to the tabs, and so it is conceivable that the tabs alone do not resemble the target sound of Fig. 1*c*, part iii, because of this edge pitch. To rule out this alternative, we ran a control experiment with four conditions. The first replicated the condition of Fig. 1*c*, part iii. The second condition was identical to the first except that the tabs in the comparison stimulus lacked abrupt spectral edges, instead fading gradually down to the midpoint of the middle band. Subjects adjusted a second middle band noise burst that was added to this stimulus, the idea being that if the high middle band match levels in condition 1 are due to the need to eliminate the spectral edges in the comparison stimulus, match levels in this second condition should be much lower.

The third condition again presented the same standard stimulus as conditions 1 and 2, but divided the middle band of the comparison into thirds, only the middle third of which was allowed to vary. The other two thirds were fixed at a spectrum level of -10. If the need to eliminate edge pitch is driving the matches, one might expect different matching levels for this condition, as the spectral edges are impossible to eliminate. A fourth condition presented the tabs alone.

As shown in Fig. S1, the matching levels were similarly high for all of the first three conditions ($n = 4$ subjects). This would appear to rule out edge pitch as the primary factor underlying our effects.

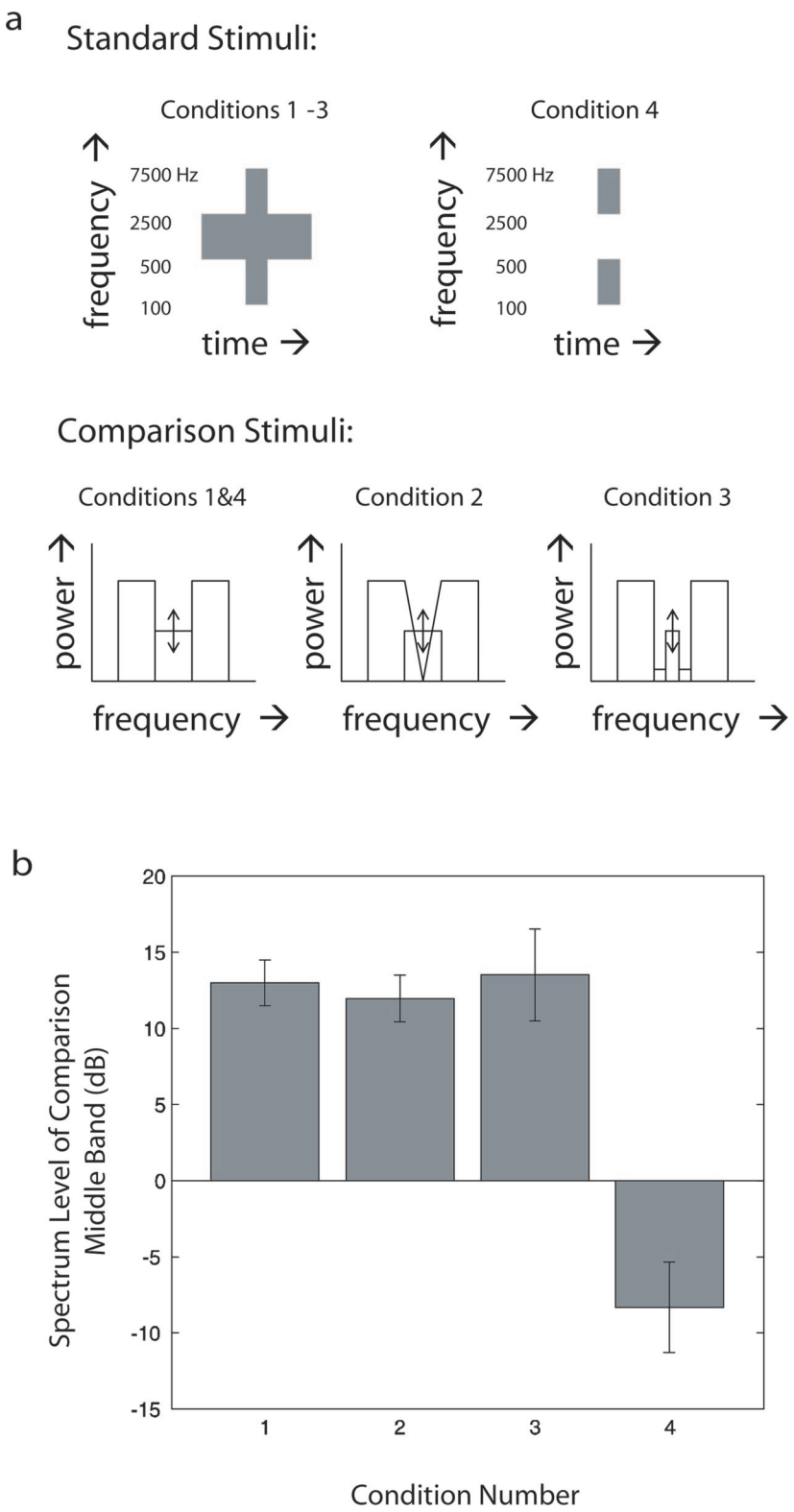

Fig. S1. Stimuli and results of supplementary experiment. (*a*) Standard and comparison stimuli. Standard stimuli are depicted with schematic spectrograms; comparison stimuli are depicted with schematic spectra. (*b*) Average spectrum level of the noise judged to match the target when added to the comparison stimuli.