

Quad Chart: How Do Different Background Sounds Affect Memory Recall?

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<p>Problem / Research Question Do different background sounds affect memory recall?</p> <p>Background: Students often study while listening to music or other background sounds. Previous research suggests that music with lyrics may interfere with verbal working memory, which is responsible for storing and recalling words.</p> <p>Hypothesis: Instrumental music will lead to better memory recall because it does not contain words that compete with the brain's verbal working memory system.</p>	<p>Approach / Methods Participants: 48 students Four sound conditions: • Instrumental music • Music with lyrics • White noise • Silence</p> <p>Procedure: Participants studied a list of 12 words (4 different randomized lists) and had 30 seconds to memorize the words and 45 seconds to recall as many as possible. After each condition they rated how distracted they felt (1–5 scale). Conditions were also randomized.</p> <p>Analysis: • Mean, median, and standard deviation • Boxplots and histograms • Correlation analysis (distraction vs recall) • Paired t-tests between conditions</p>
<p>Results Average recall scores: Instrumental: 4.75; Lyrics: 4.31 White noise: 4.58; Silence: 4.83</p> <p>Statistical results: • No statistically significant differences between sound conditions in paired t-tests ($p > 0.05$) • Higher distraction ratings were associated with lower recall</p> <p>In the lyrics condition, distraction was strongly correlated to poorer recall ($r = -0.46$)</p>	<p>Impact / Conclusions Memory recall was similar across all sound conditions. Instrumental music did not significantly improve recall. However, participants who reported higher distraction tended to recall fewer words.</p> <p>Conclusion: Individual differences in attention may influence memory performance more than the category of background sound.</p> <p>Future Work: • Study larger samples • Measure attention or working memory differences • Test different types of music and volume levels</p>