EFFECTS OF MUSICAL TRAINING AND GENDER ON ADOLESCENT P300

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Problem: The empirically measured musical ability of musically trained males has been reported to decrease significantly during adolescence. This decrease is not seen among musically trained females or among musically untrained individuals of either gender. **Methods:** To study possible neural underpinnings of this phenomenon, auditory P300's were recorded from musically trained and untrained adolescent males and females performing oddball (pitch discrimination) and missing stimulus (rhythm discrimination) tasks. **Results:** P300 latency showed significant effects of task (longer latencies in missing stimulus task), musical training (longer latencies with musical training), and a task x training interaction (longer latencies in missing stimulus task, especially with musical training). P300 amplitude showed significant effects of task (larger P300's in oddball task) and musical training (larger P300's with musical training), and a training x gender interaction (especially among females). **Conclusions:** Musically trained adolescent males failed to show any evidence of P300 amplitude enhancement compared to their untrained cohorts, though musically trained adolescent females showed the effect clearly. The absence of P300 amplitude enhancement among musically trained adolescent males may correspond to their diminished ability to benefit from formal musical training which has been reported by others.

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