

Supplemental Materials

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Additional Information on Search Strategy

The following search terms were applied for search 1: ("air pollution" OR "particulate matter" OR ozone OR "polycyclic aromatic hydrocarbons" OR "volatile organic compounds" OR TRAP) AND (anxiety OR depression). This search retrieved 942 studies. For search 2, the following search terms were used: ("air pollution" OR "particulate matter" OR ozone OR "polycyclic aromatic hydrocarbons" OR "volatile organic compounds" OR TRAP) AND (hippocampus OR amygdala OR infralimbic OR cingulate OR prefrontal OR vmPFC OR prelimbic OR Cg1 OR Cg2).

Effects of Air Pollution Exposure on Internalizing and Brain Outcomes Across Exposure Estimation Methods

For literature search 1, within studies that used exposure assessment models, 64% found increased internalizing symptoms, 12% found mixed effects (i.e., increase in depression, no effect for anxiety), and 24% found no effects of exposure. Only two studies utilized personal air monitors, with one finding increased internalizing behavior and the other finding mixed effects. Within studies using estimates from fixed ground monitors, 88% found increased internalizing symptoms and behaviors, 3% found mixed effects, and 9% found no effects.

For literature search 2, all of the six studies that used exposure assessment models reported significant neurobiological effects on frontolimbic brain regions. Only one study used personal air monitors, and this study found significant neurobiological effects. No studies included in the literature search utilized estimates from fixed ground monitors.

Of note, the directionality of results is consistent within different modeling techniques, suggesting overall similar patterns.

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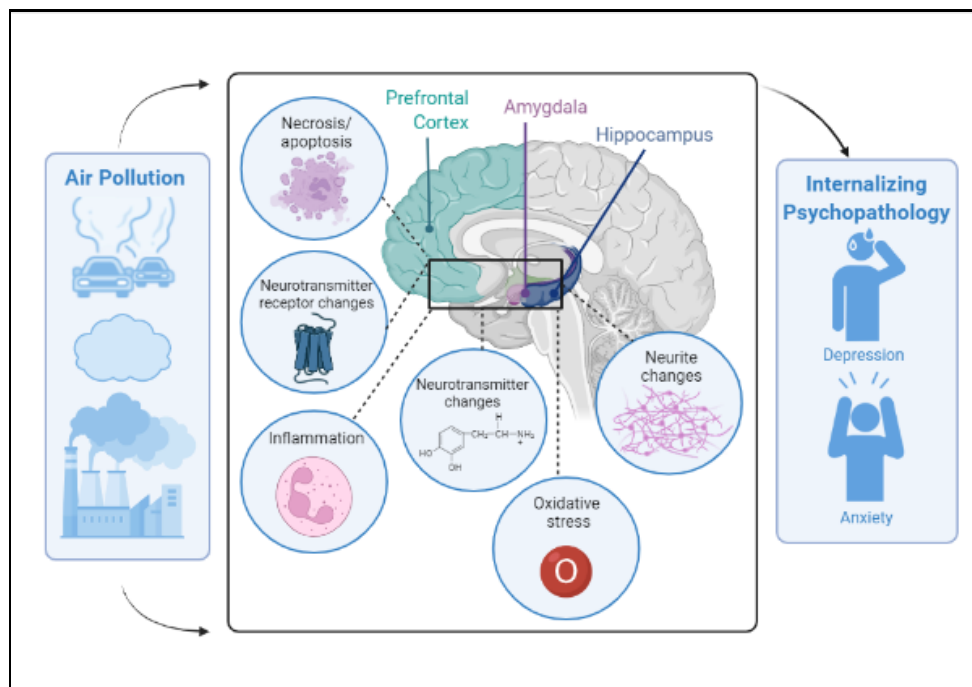
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