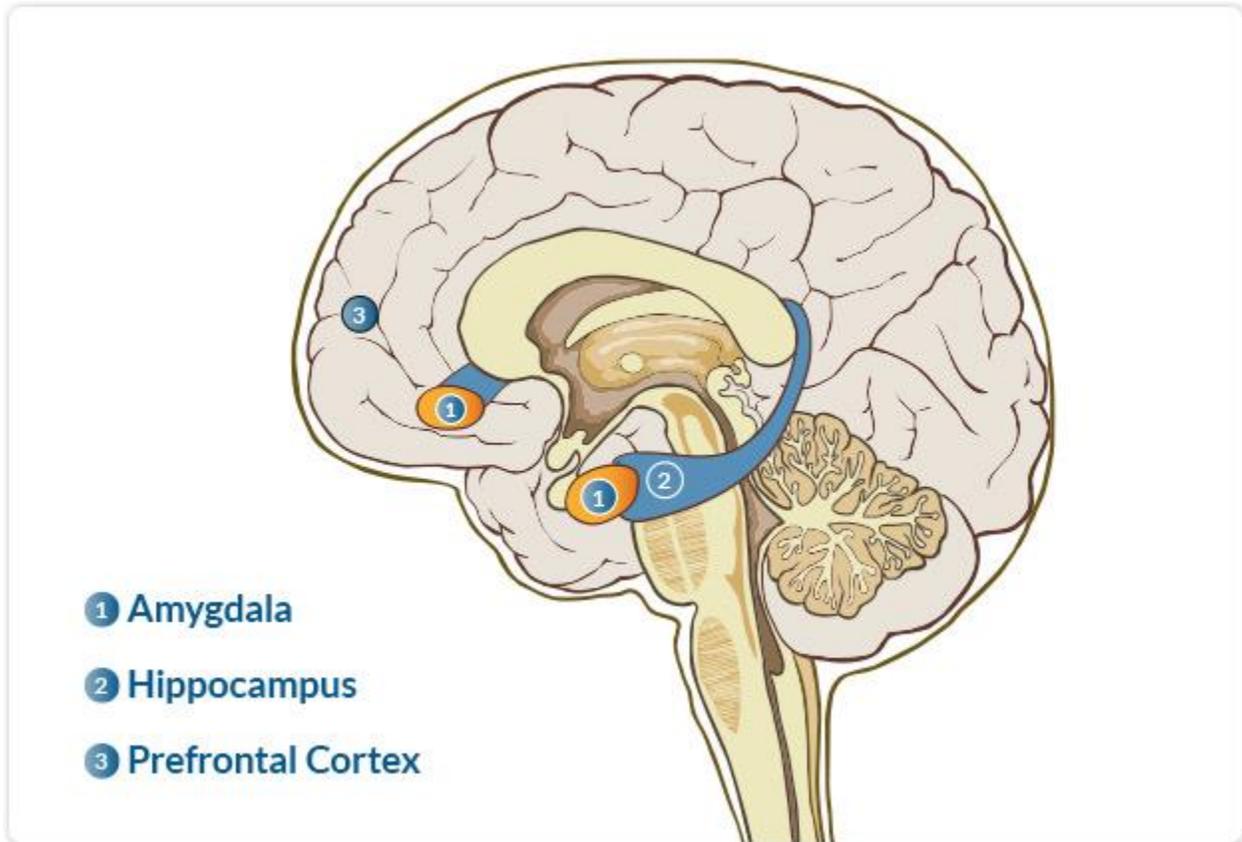


# Mindfulness Changes the Brain



## 1 Amygdala

Aroused when detecting and reacting to emotions, especially difficult or strong emotions such as fear. This part of the brain is less activated<sup>10</sup> and has less gray matter density<sup>11</sup> following mindfulness training.

## 2 Hippocampus

Critical to learning and memory, and helps regulate the amygdala. This part of the brain is more active<sup>12</sup> and has more gray matter density<sup>13</sup> following mindfulness training.

## 3 Prefrontal Cortex

The part of the brain most associated with maturity, including regulating emotions and behaviors and making wise decisions. This part of the brain is more activated following mindfulness training.<sup>14</sup>

## Research findings on benefits of mindfulness:



### Attention

Numerous studies show improved attention<sup>1</sup>, including better performance on objective tasks that measure attention.<sup>2</sup>



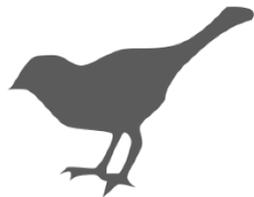
### Emotion Regulation

Mindfulness is associated with emotion regulation across a number of studies<sup>3</sup>. Mindfulness creates changes in the brain that correspond to less reactivity<sup>4</sup>, and better ability to engage in tasks even when emotions are activated.<sup>5</sup>



### Compassion

People randomly assigned to mindfulness training are more likely to help someone in need<sup>6</sup> and have greater self-compassion.<sup>7</sup>



### Calming

Studies find that mindfulness reduces feelings of stress<sup>8</sup> and improves anxiety and distress when placed in a stressful social situation.<sup>9</sup>

## Why Mindfulness?

Scholarly research finds that mindfulness practice decreases stress and anxiety, increases attention, improves interpersonal relationships, strengthens compassion, and confers a host of other benefits.

# Evidence Of The Benefits Of Mindfulness In Education



## Mindfulness with Teachers

When teachers learn mindfulness, they not only reap personal benefits such as reduced stress and burnout<sup>15</sup> but their schools do as well. In randomized controlled trials, teachers who learned mindfulness reported greater efficacy in doing their jobs<sup>16</sup> and had more emotionally supportive classrooms<sup>17</sup> and better classroom organization<sup>18</sup> based on independent observations.



## Mindfulness with Students

Studies find that youth benefit from learning mindfulness in terms of improved cognitive outcomes, social-emotional skills, and well being. In turn, such benefits may lead to long-term improvements in life. For example, social skills in kindergarten predict improved education, employment, crime, substance abuse and mental health outcomes in adulthood.<sup>19</sup>



### Cognitive Outcomes

- Attention and Focus <sup>20</sup>
- Grades <sup>21</sup>



### Social-emotional Skills

- Emotion regulation <sup>22</sup>
- Behavior in school <sup>23</sup>
- Empathy and perspective-taking <sup>24</sup>



### Well Being

- Test anxiety <sup>26</sup>
- Stress <sup>27</sup>
- Posttraumatic symptoms <sup>28</sup>
- Depression <sup>29</sup>

Excerpted from, with complete text and references at  
<http://www.mindfulschools.org/about-mindfulness/research/>  
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