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Judiciary Committee

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H.B. 6581
An Act Concerning the Recommendations of the Connecticut Sentencing Commission Regarding Lengthy Sentences for Crimes Committed by a Child or Youth

S.B. 1062
An Act Concerning the Recommendations of the Connecticut Sentencing Commission Regarding the Sentencing of a Child Convicted of a Felony Offense

Dear Representative Fox, Senator Coleman and the members of the Judiciary Committee,

Thank you for allowing me to submit written testimony in support of H.B. 6581 and S.B. 1062.

I am a Professor of Psychology and Neuroscience at Trinity College and a Board-Certified Neuropsychologist. My work is focused on the interaction of the brain and behavior, and especially on changes in the brain or brain plasticity.

One of the remarkable aspects of brain plasticity is the dramatic change that occurs in the adolescent brain. In particular a very important part of the brain, the prefrontal cortex, does not finish developing until at least age 18, with tremendous change occurring particularly between 15 and 18 years of age.

This part of the brain is involved in planning, problem-solving, impulse control and emotional regulation. This area has been dubbed "the area of sober second thought." Because it is not fully formed, it is not fully functional in adolescents.

As a result, there are significant differences between adolescent brain functioning and adult brain functioning. For one thing, adolescents differ from adults in processing of emotions. When shown a picture of a person who is frightened, adults correctly identify the emotion as fear; adolescents respond that the person is surprised or angry. Moreover, while the adults are using their prefrontal cortex when making this judgment, because this

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region is not yet fully developed, adolescents are using a part of the brain, the amygdala, that is used for more instinctual or "gut" reactions. Impulsive reactions come from the amygdala; rational thought requires the prefrontal cortex.

This finding alone can explain increased risk-taking and thrill seeking in teens. However, additional studies have also shown that these behaviors are increased when peers are present. Adults do not increase the activity in reward and pleasure centers when others are watching them. Teens, on the other hand, showed increased activity in the parts of the brain associated with reward when another teen was watching them take risks.

These data suggest that the decisions and judgments of a teen are very different than those that would be made by the same person as an adult. This alone would suggest passage of legislation for a "second look."

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