

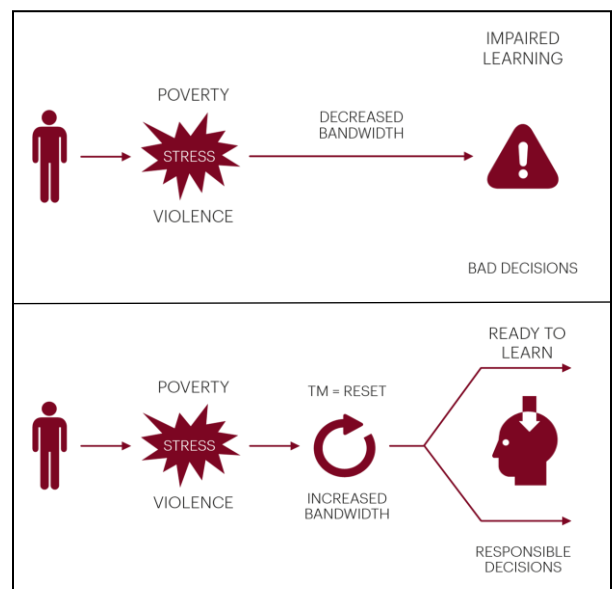
## Quiet Time: Can meditation reduce stress and improve life outcomes for disadvantaged students?

### The Challenge

In the U.S., homicide is by far the leading cause of death for black males aged 15 to 24, responsible for more deaths than the nine other leading causes combined (National Center for Health Statistics, 2013). As staggering as figures like this are, they may actually underestimate the true cost of violence by only focusing only on direct victimization. Growing evidence shows that simply witnessing a violent act or living in close proximity can have a profound impact on a young person's cognitive performance, ability to regulate emotions and ability to positively engage with peers (Margolin & Gordis, 2000; Sharkey, 2014). Crime lab affiliate Patrick Sharkey found that because of the concentration of violence, this translates to African-American youth living in the city's most violent neighborhoods spending "roughly 1 week out of every month, functioning at a low level because of local homicides" (Sharkey, 2010, p. 11736).

In many low-income, urban communities, exposure to violence is not a one-off event, and one theory is that these traumatic experiences cause stress that compounds over time (Margolin & Gordis, 2000). The repeated activation of the "fight or flight" response can cause the body to dysregulate hormones such as cortisol, and during development this can cause structural changes to the brain resulting in the impaired development of cognitive and socioemotional skills (McEwen, 1998, 1999, 2005; Shonkoff, 2012). And a key insight from recent research is that exposure to disadvantaged circumstances can reduce what psychologists call cognitive capacity or "bandwidth" – one's ability to pay attention and make good decisions – which can have consequences for academic performance and behaviors (Mullainathan and Shafir, 2013).

For too many students in cities like Chicago, living in poverty and around violence means living with toxic stress and operating with reduced bandwidth on a daily basis. (Wilson, 1987). As one young person we are working with in Chicago put it, "There is no quiet where we live...nothing but noise and drama." The common policy response to the confluence of these problems is to provide more social programs to help support youth in navigating the challenging environments in which they grow up. However, it is difficult if not impossible for students to benefit from additional resources if they cannot focus or learn. So instead of just helping youth do the best they can with the limited bandwidth induced by poverty and violence, why not give young people tools to actually *increase* that bandwidth?



**Figure 1. Effect of TM on Response to Chronic Stress.** The top figure represents our hypothesis relating to how students make decisions without TM; the bottom figure illustrates how TM could intervene in the cycle of stress.

### The Approach

We think this could be as simple as meditating for 15 minutes twice a day. The David Lynch Foundation's Quiet Time allows students to opt into short daily meditation periods, led by certified instructors and supervised by regular classroom teachers. Youth are trained by DLF instructors in Transcendental Meditation (TM). They learn how to focus on a phrase, or a mantra, which allows them to rest their minds, and thus reset their brains and bodies in the face of constant stress. Quiet Time supports students in learning TM, and gives them the time and guidance they need to do it consistently. We hypothesize that this regular meditation will help students reset their body's fight-or-flight response, reducing stress and increasing cognitive bandwidth, which in turn will lead to improvement in academic performance and behavior (see Figure 1).

The same Chicago student talking about the "noise and drama" learned to meditate during a pilot program in 2016, and described how it changed his stress response in the following way: "I used to always get angry, but now since I'm doing TM, I just brush it off." What is significant about this response is that although the environment has not changed, his reaction has.

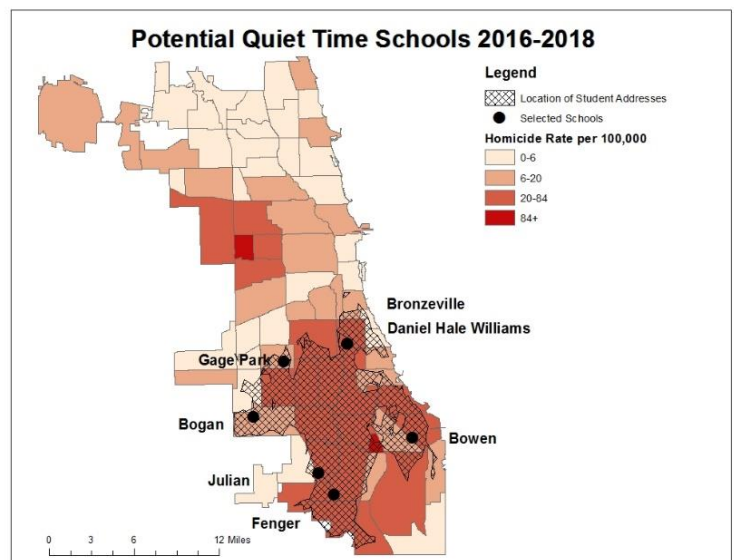
Many studies have investigated TM’s physiological and psychological benefits, but the overall rigor of this field of research is relatively low (Ospina et. al, 2007). However, several rigorous experiments indicate that practicing TM may lead to health benefits for the cardiovascular system and psychiatric conditions (Ospina et. al, 2007, Schneider, 1995, 2005, Bowen, 2006). In addition, studies that examined a form of TM adapted for clinical study found correlation with better grades and improvements in self-esteem and locus of control (Benson, 2000, 1994). Our evaluation would be the first to rigorously test at large scale whether meditation can help improve students’ behaviors and achievements, in and outside of school.

### Generating Evidence

Our proposed study will test the efficacy of Quiet Time in public schools serving particularly disadvantaged students in Chicago and New York using a randomized control trial. Violence in Chicago is very concentrated, and some of the city’s neighborhoods are among the most dangerous places in the world, with homicide rates on par with countries like Honduras (84 per 100,000; World Bank). And while New York City has seen impressive declines in homicide and violent crime rates, there are still areas of concentrated poverty and disadvantage across its five boroughs. Both Chicago Public Schools (CPS) and NYC Department of Education (NYCDOE) have similar high school graduation rates per cohort (68% and 70% respectively) and serve many economically disadvantaged students (CPS, 2016; NYCDOE, 2016). And like community violence, low graduation rates and economic disadvantage tend to cluster in particular schools within each city. Our goal with this research is to answer the following questions:

- 1) Does participation in Quiet Time reduce stress levels and/or increase students’ cognitive bandwidth?
- 2) What is the effect of Quiet Time on school engagement and academic performance as measured by GPA, standardized assessment scores, and attendance?
- 3) Does participating in Quiet Time lead to a reduction in in-school infractions and/or out-of-school arrests?

The study will be implemented in Chicago and New York over the course of three consecutive school years: a pilot year, followed by a two-year RCT. We conducted a successful 2015-16 pilot in Chicago with the David Lynch Foundation. During site visits to the 2015-16 Chicago pilot schools, we observed and were impressed by the level of program compliance demonstrated by the students. Critically, in speaking to students and teachers about their experiences, we were particularly struck not only by the positive reception but also by the need the program seemed to fill. One student noted that initially the meditation felt strange because “[he] had never sat there for 20 minutes and heard nothing”; the experience of silence and rest was foreign to him. The value of this silence was also made salient by one student who had been nervous about closing her eyes due to what she called her “bad past.” But with some guidance from the TM teacher, she learned “what to do to not get scared when I closed my eyes” saying that meditation “makes me feel protected.”



**Figure 2. Location of Study Sites and Local Homicide Rates.** The map shows the student catchment area overlaying the homicide rate by community area in Chicago overlaid with school catchment area.

### Impact at Scale

Though certainly not common, meditation in school is not a novel concept. For over a decade, secular adaptations of meditation have surged in popularity, leading to initiatives in yoga and meditation in schools across the U.S. (Greenberg, Harris, 2012). This increasing interest has led to a growing need for rigorous evidence on the effectiveness of meditation in schools. Indicative of this wider trend in education, the Chicago Public Schools extended the school day by 30 minutes in 2012 in order to give schools time to offer enrichment opportunities such as social emotional learning and strengthen core subject areas. In September of 2016, Mayor Rahm Emanuel announced a 25% expansion of the CPS social and emotional learning budget to focus on conflict resolution and responsible decision making, and increase trauma supports. The Quiet Time program aligns with this approach, and although we recognize that this program alone will not be the singular solution, we believe that by reducing stress and increasing bandwidth, it could support students’ readiness to learn and ability to benefit from other programs. If we can rigorously demonstrate that this simple and cost-effective program can improve the long-term life chances of America’s most disadvantaged youth, it presents an incredibly exciting, scalable opportunity for the future of youth programming.