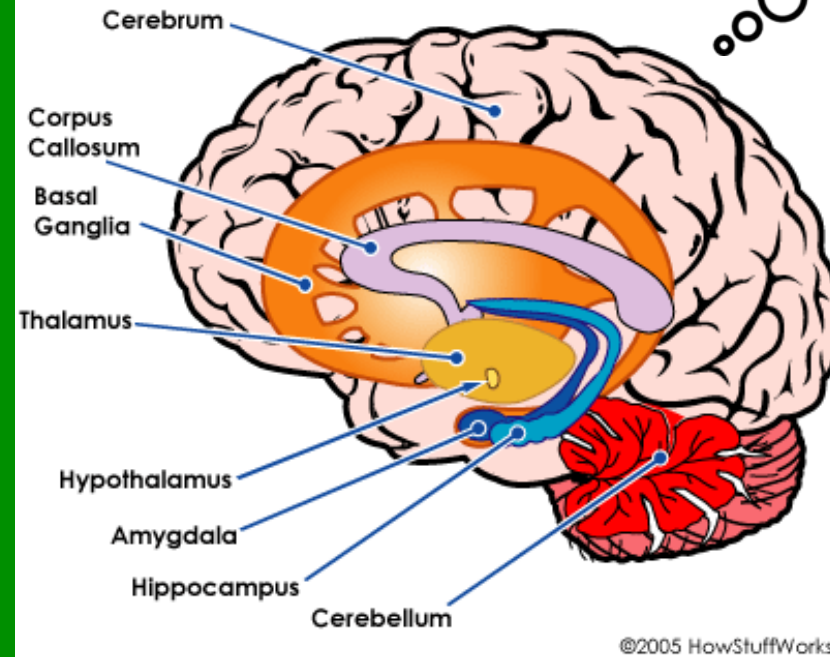




Operation
Tone-Up
Please!!

Basal Ganglia and Limbic System



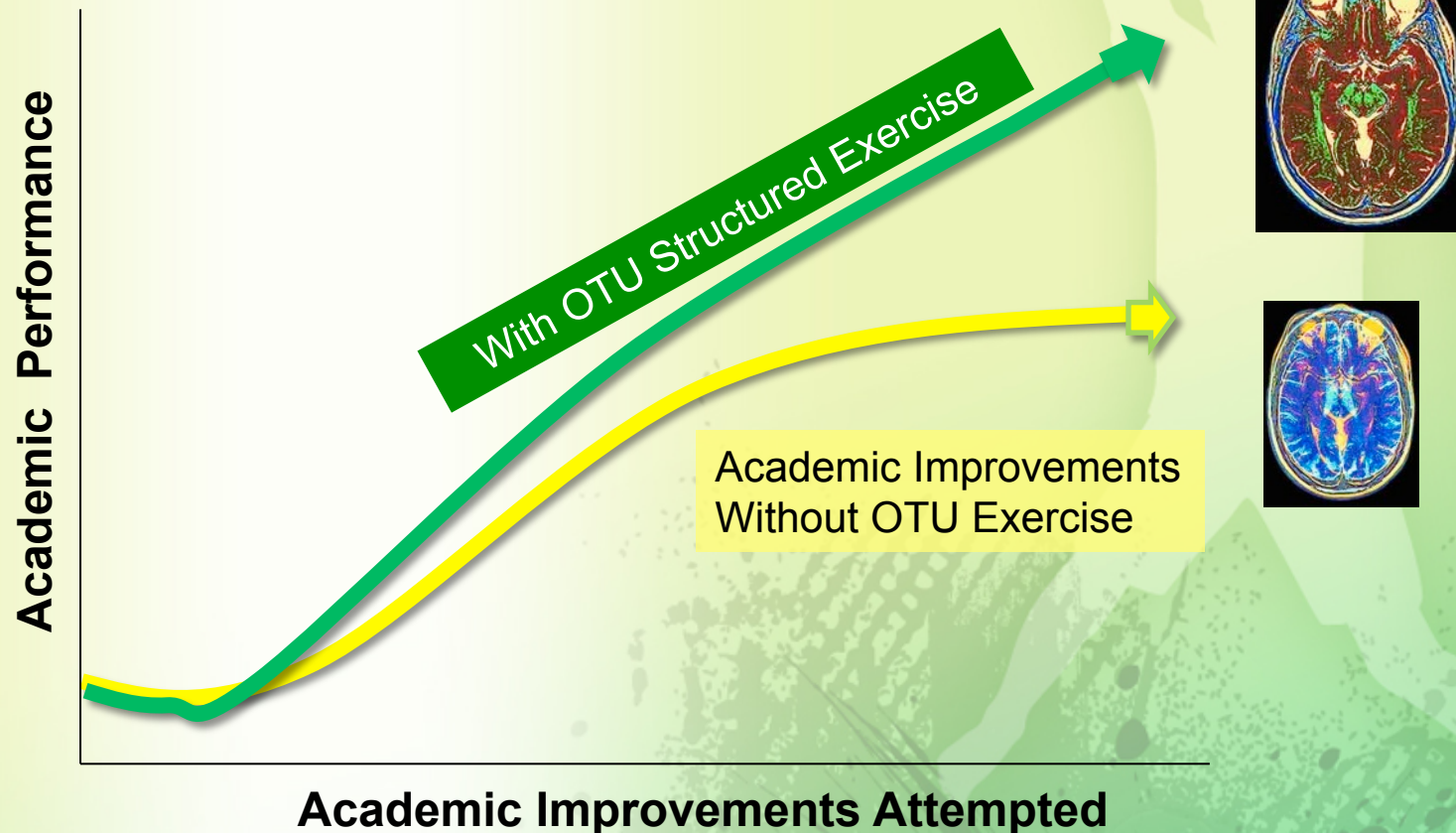
AHA!

How Operation Tone-Up Improves
Academics, Health & Attendance



Accelerate Academic Performance & Prevent Plateauing

Improve Academic Performance in Ways that Academics-Only Approaches Cannot:
Boost the Body → Boost the Brain



Source: Chaddock et al, Edwards et al, Hollar et al, Geier et al, Johnson, Schools with OTU



The **AHA!** Moment on Aerobic Exercise

OTU Improves **A**cademics, **H**ealth & **A**ttendance

(The Key: OTU Structured Rigorous Regular Aerobic Exercise)

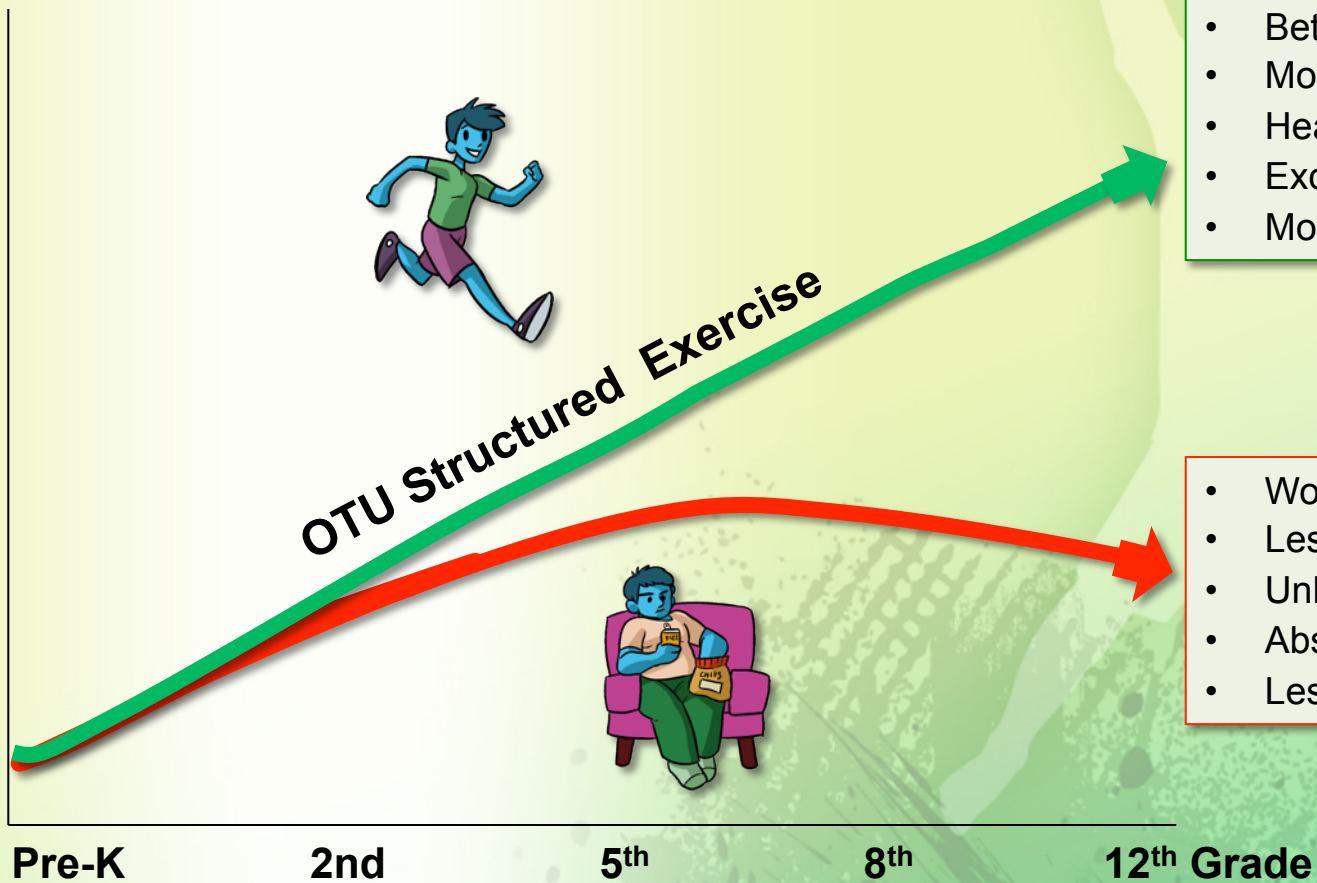
Student Impact	Details	Evidence	Benefits
Brain Capacity & Performance	<ul style="list-style-type: none"> - Expand <i>Hippocampus, Basal Ganglia</i> (memory/ relationships, cognition) - Memory & Cognitive Abilities - Attention & Focus - Reading, Writing, Math Grades - Test Scores 	<ul style="list-style-type: none"> - <i>Chaddock et al</i> - <i>Edwards et al</i> - <i>Hollar et al</i> - Schools with OTU 	<ul style="list-style-type: none"> - Academics - Attendance
Mental Health	<ul style="list-style-type: none"> - Expand <i>Basal Ganglia</i> (behavior/motivation) - Classroom Discipline - Self-image/Confidence/Self-esteem 	<ul style="list-style-type: none"> - <i>Chaddock et al</i> - <i>Geier et al</i> - Schools with OTU 	<ul style="list-style-type: none"> - Academics - Health - Attendance
Physical Health	<ul style="list-style-type: none"> - In Class More, Learn More - Greater Strength/Endurance - Lower Blood Pressure - Healthier Heart 	<ul style="list-style-type: none"> - <i>Geier et al</i> - <i>Johnson</i> - Schools with OTU 	<ul style="list-style-type: none"> - Academics - Health - Attendance



Destiny by Adolescence

If Obese @Ages 10-13, 80% Chance Obese as Adult*

Attendance & Success in School & Life



- Better academically
- More confident
- Healthier
- Excellent attendance
- More employable

- Worse academically
- Less confident
- Unhealthier
- Absent/dropping out
- Less employable

*Source: American Academy of Child & Adolescent Psychiatry



6★FIT KNOW YOUR NUTRIENTS

- Nutrition Knowledge Reinforces Exercise
- Empower Students with Knowledge of Top 6 Nutrients
 - Carbs, Water, Protein, Fat, Vitamins & Minerals
 - What Nutrients are
 - What they Do for You
 - How You Use Them to become Healthy and Strong:
 - Have Energy
 - Focus, Retain and Recall Data
 - Build Muscle
 - Fight Disease
- Empowered Children go Home and get their Families Healthy, too





AHA!

Operation Tone Up's Return on Investment



Enhanced Academic Performance



Better Health



Improved Attendance



References

Compelling Research-based Evidence: Structured Rigorous Regular Aerobic Exercise Improves Academic Performance, Health & Attendance

- Chaddock, L., Erickson, K. I., Prakash, R. S., Kim, J. S., Voss, M. W., VanPatter, M., et al. (2010). A neuroimaging investigation of the association between aerobic fitness, hippocampal volume, and memory performance in preadolescent children. *Brain Research*, 1358, 172-183.
- Chaddock, L., Erickson, K. I., Prakash, R. S., VanPatter, M., Voss, M. W., Pontifex, M. B., et al. (2010). Basal ganglia volume is associated with aerobic fitness in preadolescent children. *Dev Neurosci*, 32, 249-256.
- Edwards, J. U., Mauch, L., & Winkelman, M. R. (2011). Relationship of Nutrition and Physical Activity Behaviors and Fitness Measures to Academic Performance for Sixth Graders in a Midwest City School District. *Journal of School Health*, 81(2), 65-73.
- Geier, A., Foster, G., Womble, L., & al., E. (2007). The relationship between relative weight and school attendance among elementary schoolchildren. *Obesity*, 15(8), 2157-2161.
- Hillman, C. H. (2010). *Physical Activity and Cognitive Function in Children*. Kansas: University of Illinois.
- Hollar, D., Messiah, S. E., Lopez-Mitnik, G., Hollar, T. L., Almon, M., & Agatston, A., S. . (2010). Effect of a Two-Year Obesity Prevention Intervention on Percentile Changes in Body Mass Index and Academic Performance in Low-Income Elementary School Children. *American Journal of Public Health*, 100, 646-653.
- Johnson, J. K. (2010). *Program Evaluation of Operation Tone-Up*. Phoenix: Desert Sage Associates.
- Operation Tone-Up (2011). Videotaped qualitative data from extensive in-person interviews with teachers, students, parents and administrators involved in OTU programs. www.operationtoneup.com
- Psychiatry, A. A. o. C. A. (2008). *Obesity in Children and Teens*. Washington DC: American Academy of Child & Adolescent Psychiatry.



Contact Operation Tone-Up Today!

Tony Lamka - Executive Director

tony@operationtoneup.com

Phone: (602) 432-2898

www.operationtoneup.com



The Choice is Yours.

