Riding for Focus

THE SPECIALIZED FOUNDATION NEWSLETTER: ISSUE ONE

Welcome to Riding for Focus, our First Specialized Foundation Newsletter

Dear readers, new subscribers, and current supporters,

Welcome to the December 2016 edition of Riding for Focus. We want to be a valuable resource of information that can enrich and expand your knowledge of how kids can benefit from cycling in academics and health. This communication is a way to share our progress with you, along with news and updates on our Foundation programs, research, and partners.

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History: How an Idea Sparked Action

Specialized founder and CEO, Mike Sinyard, has long dealt with the effects of ADHD in his own life. The inability to stay focused and being easily distracted was something he had grown to just accept as "normal." Yet, he noticed that those symptoms seemed to dissipate after returning from a ride. Mike also saw the positive benefits that riding has had on his son, Anthony, who also suffered from ADHD, so when the Bicycling Magazine article "Riding Is my Ritalin" came across his desk, he decided that it was time to explore whether or not there really was science behind riding's impact on the brain.

In 2012, Specialized partnered with RTSG Neuroscience Consultants to investigate how aerobic exercise, specifically cycling, could become an important part of a comprehensive therapy program for kids with ADHD.

Inspired by the promising results from the Phase One pilot program in multiple schools, we launched the Specialized Foundation in 2014, and committed to improving lives through evidence-based youth cycling programs. The Specialized Foundation supports cutting-edge research to investigate how aerobic exercise, specifically cycling, can become an integral part of a comprehensive treatment program for kids suffering with ADHD.

One in 10 school children have been diagnosed with ADHD, which can affect their ability to pay attention and control their behavior. We believe that cycling can be an important part of a comprehensive approach to help manage these symptoms, while also positively influencing students' well-being and academic performance.

THE SPECIALIZED FOUNDATION

Riding for Focus Program

In 2016, we announced the Riding for Focus "Phase Two Specialized Foundation Grant Program" recipients. There were eight middle schools selected for the national rollout of the Riding for Focus cycling program, selected out of a pool of over 200 middle schools nationwide. In 2014, a pilot-research Phase One program, with additional schools, created the framework for this expansion.

The program provided schools with everything they needed to get their students riding, including bikes, safety equipment, staff training, program curriculum, and a partnership with their local Specialized retailer to help service the bikes, with the goal of creating a lasting cycling program in that school for at least two years.

To date, over 240 bikes have been built-up with program champions leading the way for the program's success. And while the focus is getting students out riding bikes, there are many logistics to cover in the areas of teaching, training, and technology to implement.

Bring the Program to your Community

Applications for the 2017/2018 school year will be available in the spring of 2017.

Subscribe to the newsletter to get program application updates.

School Profile: Pioneer Valley Regional School, Northfield, Massachusetts

Each newsletter will focus on one of the current school programs, giving you a snapshot of their progress and highlights to date.

Pioneer Valley Regional School in Northfield, Massachusetts started the Riding for Focus program this fall. The program is spearheaded by school psychologist Alyssa Blum and guidance counselors Peggy Fallon and Matt Soycher, who all serve as School Champions that are 100% committed to the program's success.

Through the foundation's Riding for Focus grant program, the school received 30 Specialized bikes and helmets, a starter maintenance kit, program curriculum, and a partnership with a local retailer to help service the bikes. Specialized dealer Valley Bike and Ski Werks provided bike build assistance and handled the logistics of the school delivery.

Pioneer Valley Regional School students saddle up for a class ride.

Key components of the basic startup curriculum, created by Central Michigan University (CMU) our Cycling Program Partner, include bike sizing, helmet fitting, basic bike mechanics, and bike skills. The one-hour class modules, twice a week, includes 20-30 minutes of learning ride skills, like navigating intersections with traffic and

(L-R) Matt Soycher, Dan Brown (student-senior), Peggy Fallon (School Counselor), Alyssa Blum (School Psychologist), Jean Bacon (School Principal), Geoff Christoph (VBSW owner), Charlie Canalizo (VBSW owner), Clifford Paige (School Maintenance), Norm Flye (VBSW mechanic)

mastering how to ride up steep hills by shifting gears. Students are learning to be safety focused and respectful riders and really support each other on the road or trails, even if it's just shouting out a huge hurray when they all reach the top wof the hill.

United Health Group - Optum is the Specialized Foundation Performance partner and leads the technology tracking component of the program. Optum is conducting the first-ever pilot at Pioneer Valley Middle School. The success of this pilot would lead to standardization of the "biometric sensors" with all of our Riding for Focus schools. Data is collected from wearable FitBit monitors that records continuous heart rate, bike rides, calories, and active minutes. The data will be a key component in establishing baseline activity and monitoring progress in fitness and performance levels. Surface tablets will also make it easy to view collective data in real time.

As one of the School Champions, Matt brings decades of cycling experience to the program, serving as a prior youth program director, after school bike club president, and expert mechanic.

"Some of the students currently ride bikes to school, or even serve as their neighborhood backyard bike mechanic," said Matt. "We have tremendous support from parents and local bike clubs, if transportation is needed, to reach trails farther away. Our PE teachers are thrilled to include a cycling unit into their middle school courses."

The two other School Champions, psychologist Alyssa Blum and guidance counselor Peggy Fallon couldn't agree more with Matt's assessment of the program's progress and how the students have embraced learning new skills both on and off the bike.

(L-R) Matt Soycher (School Counselor), Geoff Christoph (VBSW owner), and Dan Brown (student-senior)

Saluting our Foundation Partners

We would like to recognize and thank our primary research partner, program and performance partners, and their unique roles within the Specialized Foundation. In this issue, we'll include a conversation with Dr. Allan Reiss, Director of the Stanford Medical School and the Center for Interdisciplinary Brain Sciences Research. Future issues will profile our cycling and performance partners.

Primary Research Partner
Stanford Medical School and the Center for Interdisciplinary Brain Sciences Research

The Center for Interdisciplinary Brain Sciences Research (CIBSR) at the Stanford University School of Medicine is dedicated to research that will improve the lives and well-being of individuals with disorders of the brain and improve knowledge of healthy brain and behavioral development. CIBSR research staff are dedicated to identifying biological and environmental risk factors, understanding disease pathophysiology and developmental outcomes, and developing new treatments for neurodevelopmental, neurogenetic, and neuropsychiatric disorders of childhood onset.

Cycling Program Partner
The Department of Physical Education and Sport at Central Michigan University

Central Michigan's Department of Physical Education and Sport (CMU) provides students with a variety of professional and personal growth options relative to physical activity and sport. Through partnership with CMU, the Specialized Foundation developed the Riding for Focus School Program curriculum to meet national standards for physical education classes.

Performance Improvement Partner
United Health Group - Optum

Optum is the Health Services platform of United Health Group. Optum will be leading the technology tracking component of the Riding for Focus Program nationwide. The data collected will be key in establishing baseline activity and monitoring progress in fitness and performance levels, as well as augmenting the Stanford research led by Dr. Allan Reiss.

Meet Dr. Allan Reiss

Dr. Allan L. Reiss, is the Howard C. Robbins Professor in the Department of Psychiatry and Behavioral Sciences and Director of the Center for Interdisciplinary Brain Sciences Research (CIBSR) at Stanford University School of Medicine, as well as a Stanford researcher whose work focuses on brain development and disorders that affect children.

The Specialized Foundation has partnered with Dr. Reiss, and his team at Stanford Medical School, to launch a research study to better understand the effects of cycling on brain function and cognition in children with ADHD. Through this multi-year collaboration, we'll explore how a range of cycling programs, differing in intensity, duration, and frequency, influence the brain and behavior, as well as symptoms of ADHD like concentration, attention, and inhibition in adolescents. And in the long term, we hope to use these finding to help doctors tailor cycling-specific interventions as a part of a comprehensive treatment program for ADHD.

We wanted to share more about Dr. Reiss and his work up close and personal in this short conversation.

Can you share one of the goals your program and research?

Our hope is to one day understand how each individual is affected by genetics, the environment, and other

factors and how treatments like exercise make a difference from one person to the next.

Can you tell me the type of applications that you plan to use, or that you've tested so far, and what you will be studying?

NIRS. N-I-R-S stands for near-infrared spectroscopy. It's a technology that can be used to track and record dynamic brain activity in real-life naturalistic settings. So you may have heard about functional MRI, which is done in a gigantic, loud machine, where you're lying on your back and have to hold very, very still. NIRS actually measures the same proxy of dynamic brain activity as fMRI, but you can use it in naturalistic settings.

So we use a form of NIRS called functional NIRS. It's wearable tech. People are very interested in it as a way to interrogate what a person's brain is doing in real-time over some period of time. NIRS is a completely safe and non-invasive. You wear little optodes on your head, and it's basically emitting NIR infrared light. The light that comes back out, the specific wave lengths, tell you something about how the brain is active right under those optodes or channels.

How are you using this in your work?

We're using it to understand a brain at rest, how brain activity changes in response to specific tasks or challenges and to understand how two brains connect in a social setting. We're also using NIRS as a feedback technology. So, to allow people to potentially enhance specific brain function to relieve symptoms, or enhance learning, or specific cognitive skills. For the research that's being sponsored by the Specialized Foundation, we're going to be using NIRS as a method to measure brain activity before, during, and after cycling, initially in individuals who have what we would call typical brain function and development. And then we will move that into the population of children and adolescents who have ADHD.

"Our hope is to one day understand how each individual is affected by genetics, the environment, and other factors and how treatments like exercise make a difference from one person to the next."
– Allan Reiss

How will NIRS be used in regards to studying cycling?

We have just started to use NIRS in the context of exercise, and in particular, in cycling. And we have used NIRS in a few individuals to look at really how useful it is, whether it's capable of measuring brain signal before, during, and after cycling. Perhaps most important to the project is can we find a particular brain biomarker that predicts response to cycling exercise?

One last question—do you ride a bike and have a favorite bike memory?

In terms of my own childhood and riding bikes, I have some succinct memories. I grew up in the hills of San Francisco. A group of my friends and I, would take the most beat up bikes, sometimes only with one pedal, we'd start at the top of a hill and go down. And the idea was to brake before you ran into something. I didn't actually have a bike with gears. I think had a 3 speed in high school and didn't have my first real 10-speed until I was a medical intern in Colorado.

We are excited about what this research can uncover, possibly identifying which children will most benefit from using physical activities like cycling to treat their ADHD, and how we can structure their activities to be the most impactful on their cognitive functions. Mike is a great example of how, for some individuals, ADHD can be managed through cycling and other activities. Through his generosity, we will be able to advance our research into how others with ADHD can reach their full potential.

Learn more about the partnership with Stanford.

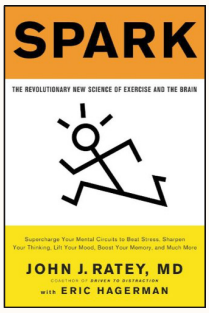
Learn more about the NIRS Lab at Stanford.

Stanford MEDICINE | Stanford Children's Health | Lucile Packard Children's Hospital Stanford

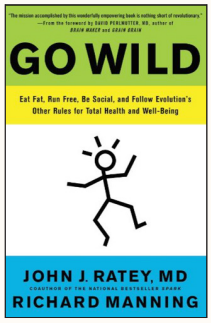
Read All About It:
ADHD News, Books, Articles, and Current Research

Every issue, we'll share a few of our favorite reads that dig deep into the science of ADHD and how exercise can be most beneficial to children.

Books



Spark: The Revolutionary New Science of Exercise and the Brain is the first book to comprehensively explore the connection between exercise and the brain. Dr. Ratey is an Associate Clinical Professor of Psychiatry at Harvard Medical School. This book is the current gold standard of information on the mind/body connection, illustrating how exercise is truly our best defense against multiple conditions, including ADHD, and how aerobic exercise physically remodels our brains for peak performance.



Dr. Ratey's latest book, Go Wild, investigates the power of living according to our genes in the areas of diet, exercise, sleep, nature, mindfulness, and more, and it examines how tapping into our core DNA combats modern disease and psychological afflictions.

Note, in 2012, The Specialized Foundation partnered with RTSG Neuroscience and Dr. Ratey to investigate how aerobic exercise, specifically cycling, could become an important part of a comprehensive therapy program for kids with ADHD.

Studies

The following two studies provide scientific findings on how exercise may be beneficial to children with ADHD.

Emerging Support for a Role of Exercise in Attention-Deficit/Hyperactivity Disorder Intervention Planning.

Recent years have seen an expansion of interest in non-pharmacological interventions for attention-deficit/hyperactivity disorder (ADHD). Although considerable treatment development has focused on cognitive training programs, compelling evidence indicates that intense aerobic exercise enhances brain structure and function, and as such, might be beneficial to children with ADHD. Olga G. Berwid and Jeffrey M. Halperin, Curr Psychiatry Rep, October 14, 2012.

Acute high-intensity physical exercise is known to improve cognitive performance of children, including those with attention-deficit/hyperactivity disorder (ADHD).

In this work, we investigated the acute effect of aerobic stretching and moderate-intensity, health and happiness improving movement (HHIM) exercise on the cortical activity of children, with and without ADHD, using electroencephalography (EEG). 2016 Aug, 12: 320-327.

News

The Specialized Foundation was awarded to the first-ever "Rodale 100", a list of the 100 people and organizations who will be "changing the face of the health and wellness universe" in 2016 and beyond. It's a great recognition for our innovative school cycling programs that help kids achieve academic, social, and health success. Read the full story here.

Specialized Foundation Timeline

2010

Specialized founder and CEO, Mike Sinyard, has long dealt with the effects of ADHD in his own life. The inability to stay focused and being easily distracted was something he had grown to just accept as "normal." Yet, he noticed that those symptoms seemed to dissipate after returning from a ride. So when the Bicycling Magazine article "Riding Is my Ritalin" came across his desk, he decided that it was time to explore whether or not there really was science behind riding's impact on the brain.

2012

Specialized partnered with RTSG Neuroscience Consultants to investigate how aerobic exercise, specifically cycling, could become an important part of a comprehensive therapy program for kids with ADHD.

Phase 1 Riding for Focus pilot programs launched in multiple schools nationwide Wilson Middle School and Kennedy Middle School in Natick, Massachusetts.

2014

Inspired by the promising results from the pilot program, Mike Sinyard, Founder and CEO of Specialized Bicycle Components, created the Specialized Foundation.

The Specialized Foundation sponsors pilots of the Phase 1 Riding for Focus programs around the country.

The Today Show featured the program at Payson Junior High School, Payson, Utah, which has grown into a fully-fledged Physical Education class.

Specialized awards Audubon School in Los Angeles, CA an inner city school grant to jumpstart Audubon Middle School's Bike Program.

2015

Specialized Foundation announces grant opportunities nationwide for Riding for Focus Program applicants.

2016

Riding for Focus "Phase Two: 2016 Specialized Foundation Grants" announced; eight middle schools were selected for the national rollout of the Riding For Focus cycling program, selected out of a pool of over 200 middle schools nationwide.

The Specialized Foundation announces its partnership with Dr. Allan Reiss, Director of the Center for Interdisciplinary Brain Sciences Research (CIBSR) at Stanford University School of Medicine whose work focuses on brain development and disorders that affect children to advance the science behind cycling and cognitive function.

The Specialized Foundation awarded to the first ever "Rodale 100", a list of the 100 people and organizations who will be "changing the face of the health and wellness universe" in 2016 and beyond.

2017

Applications for the fall 2017 Riding for Focus school program will be available online in the spring 2017.

THE SPECIALIZED FOUNDATION

Mission
The Specialized Foundation uses cycling as a tool for children to achieve academic, health and social success. Through investments in primary scientific medical research and school-based cycling programs, our mission is to increase accessibility to cycling to aid youth in personal development and education.

Join the Movement
Learn more about our ongoing research and outreach.

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The Specialized Foundation is a 501c3 nonprofit organization that promotes cycling as a tool for children to achieve academic, health, and social success.