



# INTELLECTUAL ATHLETE

Have a Ball, Catch a Breath



## Intellectual Athlete Impact Report

Play Built Resilience  
School-Based Programs & Camps

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## Executive Summary

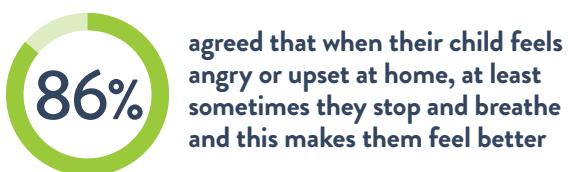
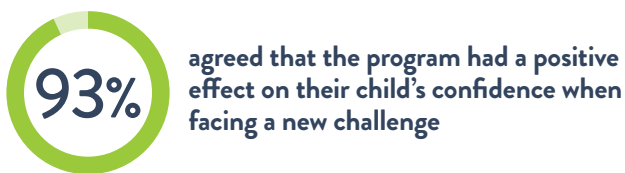
According to the nation's leading experts in child health, the youth mental health crisis is a National Emergency. Yet not enough strategies have been enacted or solutions proposed to help support young people during this critical time. The number of youth suffering from anxiety and depression far exceeds resources available to help. Of the 100,000 clinical psychologists in the country, only 4,000 are child and adolescent clinicians.<sup>1</sup> What is more, 1/3 of Americans live in mental health 'deserts'—areas with even fewer qualified professionals available.<sup>2</sup>

According to Secretary of Education Miguel Cardona, currently 80% of school-age youth experience mental health challenges.<sup>3</sup> These are children who are struggling with anxiety who need a strategy, and coping skills to deal with adversity they face on a daily basis. This is where Intellectual Athlete offers a solution.

There is a need for an accessible and acceptable preventive therapy model to help build resilience in young people and equip them with coping strategies to handle stress before their conditions deteriorate. Any solution must take into account the very real stigma and challenges associated with accessing therapy, including transportation and cost which are added barriers.

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### Of 21 parents surveyed whose children completed a school-based program or camp:



Rather than conjuring a reserve force of mental health professionals, a therapy that is centered around the awareness of breath can be delivered by paraprofessionals, coaches and other credible messengers who are passionate about the mind-body connection and youth development. Research shows that the breath can act as a remote control to our emotions.<sup>4</sup> Young people can learn this skill, similar to what elite athletes use to manage their anxiety and perform optimally. But you can't pep talk resilience, it needs to be experienced.

The experience starts with movement. The body releases endorphins when active that makes the brain (and body) feel good. Running, jumping, dribbling and playing catch are all examples of rhythmic patterned behavior which mimics the heartbeat and helps regulate the brain. Good habits benefit youth mental health,<sup>5</sup> and a crucial skill we can teach young people right now is how, when, and why to use breathing and relaxation techniques to weather stress experienced through sport and play.

The purpose of this Impact Report is to introduce Intellectual Athlete (IA), a mental fitness company that uses sport and play to teach young people how to self-regulate. Using the inherent pressure in sport and play to accelerate heart rates and heighten healthy stress, Intellectual Athlete coaches young people how to manipulate breath and body to calm their mind and weather stress they experience first-hand. Our pedagogy also includes storytelling as an important aspect—by sharing stories of resilience and bravery we reinforce the students' reflection on their own approaches when dealing with challenges, and further encourage kids to implement the specific mental skills that we teach.

IA's opening impact report, published in January 2022, detailed the effectiveness of the program over the first three months of working in schools. The company taught diverse populations of students during different times of the day utilizing a curriculum that integrates storytelling, breathwork, free play, and meditation. The programs were evaluated using pre- and post-program questionnaires completed by parents and students, as well as narrative accounts from students gathered by coaches. The major findings: class size matters, 1:12 is the ideal instructor to student ratio. 2nd through 5th graders responded best to IA's Play Built Resilience curriculum. Crucially, our programs worked. Students reported using the breathing techniques in real life situations, showed understanding of why these approaches are important and useful, and parents reported improvements in behavior and witnessing their children using breathing and meditation for self-regulation at home.



This, our second impact report, details programming carried out during the Spring 2022 school semester. This time, IA worked with middle school populations in addition to elementary school aged children. Middle school students desired an elevated form of our curriculum which included mental skills like positive self-talk, imagery, and concentration/focus. As the data in this report implies, these students wanted to learn these skills to gain a tactical advantage in their respective athletic and academic pursuits. We ran programs in one school in the early morning before the first school bell. This had a tremendous impact on regulating the students and staff reported a greater ability to focus on school related activities.

This report will lay the foundations for a randomized controlled trial where we plan to prove unequivocally, that

1. Intellectual Athlete can strengthen any kid’s instinctive response to stress utilizing its Play Built Resilience Curriculum.
2. The student will be witnessed by parents, teachers and coaches utilizing stress reducing techniques at home, in school, and within athletics, to gain a tactical advantage.
3. Our network of paraprofessionals—coaches, counselors, and athletes trained in these mental health skills are just as effective in creating these good habits as clinicians.

We plan to start with a Waitlist-Control Trial, comparing the effects of our program on children’s mental health, mental fitness, resilience, and behavior with the passage of time in the waitlist control group over 12 weeks of weekly programming. If successful, our program can be compared with standard Cognitive Behavioral Group Therapy for children and youth aimed at teaching healthy coping strategies, with a crossover trial design, ultimately to show that our approach is just as effective as a standard mental and behavioral health support intervention.

## 1. Methods

Programming included in-school classes as well as before and after-school “enrichment”, once weekly for one hour over 8–10 weeks. We also evaluated “bootcamps”, which included one to five days of day-camps with stress-inducing play activities, breathing and meditation practice for self-regulation. Figure 1 summarizes the programs we evaluated. Students were encouraged to participate

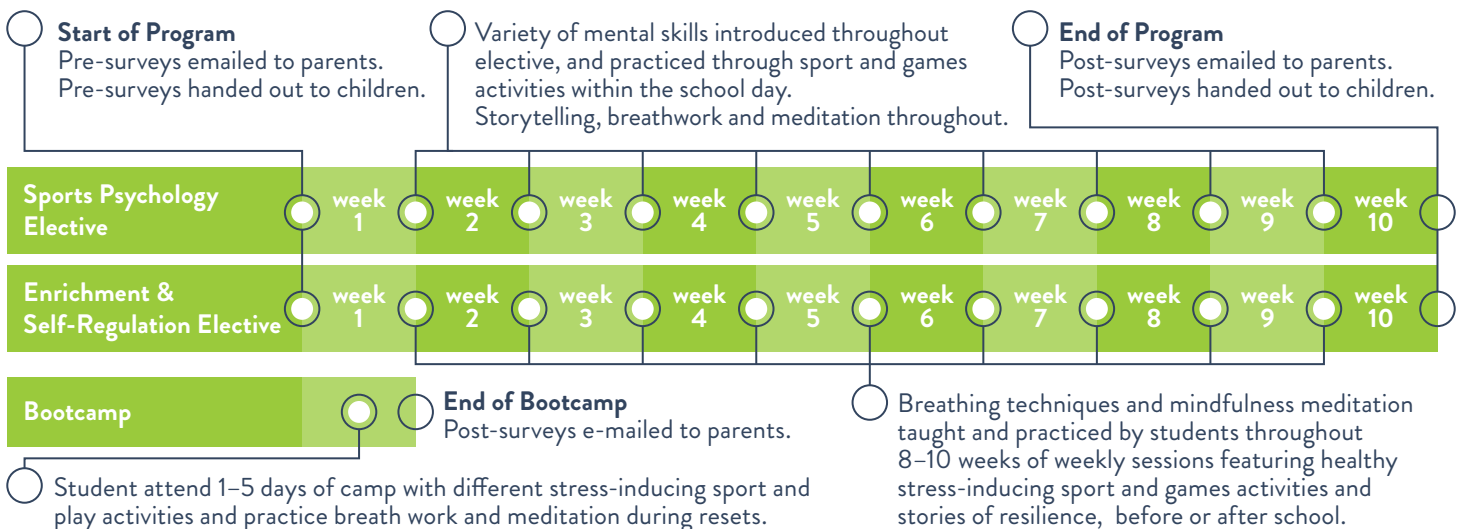


Figure 1

in the program at one school because of their demonstrated lack of self-regulation skills. Another school offered IA as a performance psychology elective with students opting into the program. Evaluation was through pre, and post Likert scale surveys and qualitative evidence obtained through individual interviews, email and open vignettes within surveys. For more detail on methods, see Appendix A.

## 2. Main Findings

- Questionnaires of students at Ibarra Elementary and St. James Academy reflected an increased use of motivational self-talk, breathing techniques and other mental skills during sport and at home to calm down and handle stress. Effect sizes with these pre-post changes represent meaningful differences (Appendix B).
- One-on-one interviews with our sport psychology elective students showed that the students really absorbed the mental performance skills taught and used these in daily life as well as in their chosen sport, with insight into how these skills improved their performance and ability to cope with stress, worry and challenge.
- Parents whose children took part in our resilience-building bootcamps all (100%) agreed that the bootcamp had a positive effect on their child’s confidence when facing a new challenge, and almost all (88%) agreed that they had at some point witnessed their child practicing breathing techniques at home, as well as using these during sports and at home to calm down at least sometimes, indicating that skills had been absorbed and students were thinking about them at home and outside of IA sessions.
- Parents’ survey response pre- and post- comparisons for our in-school and after-school enrichment programs at St. Katherine Drexel Academy, Holmes and Jerabek Elementary schools also suggest growth in the learning and use of breathing techniques to calm down during sport and at home, as well as overall resiliency (based on an increased post-survey scores) with a large effect size for St. Katherine Drexel.
- Children’s motivation, enjoyment and improvements in behavior were noted by school staff including a school counsellor.

## What have Elective students said about the program?

Excerpts from individual student interviews with St. James Academy and Ibarra Elementary students

### Have you used the mental skills learnt in your daily life?

“Recently I felt frustrated when talking to my mum, I asked her to give me a second, **went out to take a breath**—it helped me to regain my train of thought and then communicate what I wanted to say in a constructive manner”

In regards to the **skill of positive self-talk**, this student shared that she had found this useful when in social situations, she used to get upset about saying something she felt sounded awkward, she now knows how to stop worrying about it, will tell herself that “my whole life is not ruined because of one thing I said, there will be lots of other opportunities”, so is able to stop worrying.

Helen\* said she has used the **breathing and focus cues** at school—she says when she feels stressed, she remembers to just ‘breathe, focus’ and then feels better. She mentioned that there have been some kids at school that have been behaving in an antagonistic manner towards her and she has used these techniques and felt much better.

Outside of sport, Alex\* agreed that he has used breathing at home with mum or dad, “If I’m getting upset, I usually **take a box breath**”.

Josh\*—when I asked him about using the techniques outside of sport, he mentioned learning a new skill—drumming at church, and he has used the breathing there, **right before playing to calm himself down**. He uses mental skills to focus on the drums only and not what is going on around him. He also mentioned using these skills to help others.

“I take a breath when I’m angry or mad with my brother”  
—Ibarra Elementary student

“Yes I’ve used breathing—when I’ve got annoyed about doing chores, or when I feel stressed”  
—Ibarra Elementary student

\*Names changed for privacy



### AT 3 MONTHS FOLLOW-UP: (after summer break)

Helen reported that she used the breathing techniques taught in IA throughout her summer. She was auditioning for [acting roles] and said that she reminded herself of the various breathing techniques to calm down and be present when she was worried about being cast or forgetting her lines for one of the auditions. She used the box breath the most and said it helped her to remain calm when she felt that she was “freaking out”. She also shared that participating in IA last year helped her to feel closer and more connected with other classmates. She said she had a difficult time practicing positive self-talk over the summer but that it did make her more aware of the moments in which she was having negative self-talk and helped her to stop those thoughts from circulating.

### AT 3 MONTHS FOLLOW-UP:

(after summer break)

Alex self-reported that he did use the breathing techniques taught in Intellectual Athlete last year over the summer in a sports setting. He plays basketball and we discussed that he used both the box breath and anchor breath technique when playing basketball, especially when he was going to take free throws for his team.



## Did this elective improve your confidence in sport?

“Yes! In the past during riding lessons, if something went wrong, it used to get me down, I would keep thinking that the rest of the lesson will be like this. Now, I say to myself that I should be able to stop thinking like this, and focus on doing better, it’s all about trying and pushing yourself forward. I didn’t have these skills before.

This student also shared that now, after every riding lesson, she spends some time reflecting, e.g. “that was a really good lesson, how was I positioned during riding, where were my hands, how tightly was I holding the reins” and finds this very useful.

“The animal [horse] can feel it when you are upset, because they are herd animals, and it is the way they protect each other—they can sense it when other animals sense danger. It’s very important for the rider to calm themselves down... there has been a big difference since taking part in the IA elective”

Luke\* felt there has definitely been a difference in his attitude when facing a difficult challenge. “**I don’t give up as easily**”. He has used the techniques he has learnt in sports. In soccer he has used imagery and breathing techniques to feel relaxed. When he does not score the first time, he is able to alter his thoughts to be more positive. He said the breathing makes him feel more relaxed.

**“This has been really fun—my favorite elective that I have done this year!”**

Alex\* has used the **box breath, 4-5-6 breath, and anchor breath** in basketball. He has been able to use these to calm himself down when losing. In general he says he has become a better player due to the techniques he learned at IA—‘used to be 5th best, now 3rd best’.

Josh\* has used the breathing a lot in skiing including during competitions, and feels it has helped him do better. He mentioned the anchor breath in particular. He has also learnt about focusing, not giving up on yourself.

“Overall Josh said that what has really helped him learn the breathing techniques is actually physically doing it during the games—experiencing it. Not the same as someone just telling him about it. Josh came up with this point without prompting from me.”

“For me and my sport baseball, breathing has been key. Really key. I’d seen batters breathe before this program, and my coach has told me to breathe before batting. But I didn’t know any specific breaths. The different breathing techniques for different scenarios are useful. I use the anchor breath and box breath.

Visualization has also been useful for me. In general, this elective has helped me get out of a slump and I’m doing better”.

\*Names changed for privacy



**Ibarra Elementary student written survey responses:**

“At home or when I play basketball”

“When I am mad at my teammates”

“I do a box breath when I play sports”

**SURVEY QUESTION**  
Give an example of when you have used a breathing technique in everyday life.

“When I’m stressed or mad”

“Sports and when I get angry”

“When I am stressed out”

“When I am mad or angry”



## What have school staff said about the program?



In my opinion the students loved the program. Certain students dramatically improved [in terms of social skills and team work], but most students somewhat to moderately. I have witnessed some students using techniques, usually when prompted—but they have the knowledge. When prompted the students can more easily calm down.

–Ibarra School Counselor

I saw first hand how Alec worked with the kids and connected with them. Any and all schools would definitely benefit with this [program].

I can definitely speak its praises! Witnessed the kids' enjoyment, excitement and enthusiasm!

–St. James Academy PE Coach

Our kids and parents have really enjoyed the work we've done with IA and several parents specifically asked me if we can continue with them again in the Fall.

–St. Katherine Drexel Principal

I do know they really enjoyed the program—every single person—because I specifically asked them after classes :) I definitely believe in the program and think all students should be equipped with these skills.

–St. James Athletic Director, PE Teacher

The students loved the program and couldn't wait for Wednesday. The breathing and meditation techniques helped to regulate the students and they were more productive during the class day and happier overall.

–Enrichment Site Supervisor, Toler Elementary



## What have parents said?

My son Marley absolutely loved this program, please keep it available in the future!

Gives parent and child an easy code phrase for calming down like, "Let's do box breath" without conflict. Then we breathe together. Helps give my child something in his toolkit.

My child is definitely slow to warm in new situations so it took him a while to adjust to being in the program. I would love to continue working with this program because I think the 8 weeks was just enough for him to like it but he still has a lot to learn. I hope you continue at our school. Thank you.

My son was recently very angry that his friends had left without helping him clean up his room but I insisted that it was still his responsibility to clean it up. He started to clean then came out, sat on the couch and started breathing "to calm himself down". I asked him if he learned this at IA and he said yes. I told him how impressed I was and after calming himself down he returned to his room and finished cleaning. Thank you IA!

Very happy with your program.

My son enjoyed his first day and did come home with a coping skill that he didn't have before. He promptly used it in his baseball game the next day and (coincidentally or not), pitched the best game he's ever pitched.

Looking forward to the next Intellectual Athlete at school. Thank you for all you do.

My son really enjoyed IA and had fun, he still needs to keep practicing.

My son reported that he really enjoyed IA and would like to do it again next year.





## Discussion

Intentional deep breathing acts on the autonomic nervous system (an automatic part of the nervous system), reducing heart rates and anxiety levels, producing a feeling of calm and improved focus.<sup>7</sup> Indeed, within schools, programs that instruct the use of deep-breathing techniques to address emotional management have been implemented and evaluated, with findings of reductions in reported anxiety and improved behavior among students.<sup>8</sup> Whether it is in anticipation of a test, making new friends, or giving a presentation, children experience performance anxiety and can substantially benefit from intentional breathing practices. These techniques are also invaluable when controlling one's emotions and self-regulating when angry or upset for a more constructive response. Providing children with specific breathing techniques will help them learn to address the onset of these emotional states so that they do not progress to a point where it is debilitating for their physical, psychological, social, or academic functioning. Intellectual Athlete teaches this through a physiological model, so children learn what happens in their body during pressure and stress, with the hope that while experiencing this first-hand, learned breathing techniques become an instinctive response to stress.

This report provides evidence that our approach is teaching skills in a way that stick and are retained by students, as well as parent-reported and self-report student change in behavior and perceived ability to manage stressful and pressured situations.

IA's intervention is youth-friendly and easy to process. Although the skills that we teach are embedded in a foundation of sport and performance psychology, they can be utilized to improve the psychological wellbeing of individuals in non-sport contexts. Their effectiveness is backed by rigorous scientific and clinical research:

### Positive Impact of Breathing on Stress and Anxiety

Performance anxiety is a specific phenomenon that occurs for athletes and performers who experience debilitating stress and worry during times of pressure or in anticipation of a meaningful performance. Breathing techniques help reduce symptoms and help athletes find their flow state for optimal performance.<sup>9</sup> At IA we like to say that all of life is a performance and the same mental training elite athletes receive can and should be packaged for the everyday kid to help them identify and find their own optimal flow state. We believe kids will benefit in learning how to breathe through stress to overcome stressors in everyday life.



### Positive Impact of Mindfulness on Stress and Anxiety

Jon Kabot-Zinn defines Mindfulness as "the awareness that arises through paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally." Mindfulness involves tuning into the present moment while bringing awareness to one's current physiological state. This is practiced most often by focusing on slow deep breathing. Research indicates that increased mindfulness practice not only has a positive impact on self-reported measures of mental health such as anxiety and mood, but neuroimaging methods have shown that mindfulness practice also influences positive differences in brain activity contributing to psychological health. Individuals who are more frequently mindful have been found to regulate emotions more effectively.<sup>8,10</sup>

### Positive Impact of Self-Talk on Stress and Anxiety

Cognitive Behavior therapy (CBT) suggests that our thoughts influence our feelings which influence our behaviors. Negative thoughts or forms of self-talk as self-deprecating statements impact how we feel and subsequently perform/ behave. IA teaches young people to focus on their breath when they notice a negative talk cycle, then using fact or reason to counter and replace the negative thought. Studies show that children who habitually engage in positive self-talk experience higher levels of subjective wellbeing. Conversely, those who habitually engage in more negative self-talk, that is, self-talk that emphasizes incompetence, failure, or personal harm experience elevated symptoms of anxiety and depression.<sup>11</sup>

Our evaluation provides evidence of multiple students taking part in our specialized Sport Psychology Elective program deeply absorbing self-talk concepts and using these on multiple occasions in sport and in real life, with positive impact.



**SELF-TALK** *Are you a friend or foe?*

**Thoughts** → **Feelings** → **Behavior**

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**FOUNDATIONS OF CONFIDENT SELF-TALK**

1. Understanding the interaction between thought & performance
2. Honest self-awareness
3. An optimistic explanatory style
4. A psychology of excellence

**Creative Affirmations:** statements that reflect positive attitudes about oneself

**Thought Stoppers:** identifying negative thoughts and using a trigger word to interrupt the thoughts such as "stop"

**Keep a Self-Talk Log:** a notebook that provides insight to your own positive or negative self talk tendencies

**Counterline:** dialogue that uses fact or reason that refutes the negative beliefs/thinking

**TECHNIQUES** ↗

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Intervention programs that feature a synergy of mental skills training from sport and performance psychology along with exercise/physical activity could then, in theory, be an important player in addressing the current youth mental health crisis while avoiding the stigma of receiving mental health support. **Our data is showing that we are able to teach these skills in a way that carries over into real life. Our approach helps young people understand, and make changes using the body and brain in a real and applied way. Intellectual Athlete helps young people have control over their nerves and emotions by forming a deeper relationship with their mental space through the body and brain.**

We propose that because the prevalence of stress and anxiety among youth populations is dangerously high, and there are not enough trained clinicians to offer traditional therapy for everyone who needs it, a new model is needed. It only makes sense to swim upstream and equip young people with coping skills and resilience before symptoms become a diagnosis. IA has developed a consistent and creative platform to help address issues of anxiety and stress through the lens of physical activity and our customers walk away believing they now have an advantage skill set that can help them excel in the classroom, on the playing field and most importantly they feel more confident to meet the challenges in everyday life.

It is worth mentioning that, although we are not an official Social-Emotional Learning program, the skills and qualities children acquire are in line with the learning outcomes of SEL programs. This includes Self-Management, Self-Awareness, Social Awareness and Relationship Skills. While the core skills we teach are in line with Self-Management and Self-Awareness, Relationship Skills are practiced through kids negotiating their own disputes on the field, learning to play together in a co-operative way, by being encouraged to lead teams and explain new rules to others. Through an inclusive approach we foster empathy and co-operation. Through encouraging other team-mates, we foster growth of understanding of other people and their strengths.

### Physical Exercise

Finally, physical exercise has been thoroughly documented as a highly beneficial strategy for improving mental health.<sup>12</sup> This is one reason sport is recommended in trauma-focused interventions, particularly when including rhythmic activities such as running or dribbling a basketball—these calm the stress response.<sup>13</sup> Through the regulating effect of sport and the fun and creativity that play provides, the brain is aided in becoming more open to deep learning and absorbing the skills that are being taught. Through new challenges and athletic skill development, students gain self-confidence and a sense of achievement, known to contribute positively to resilience. Lastly physical activity is fun and the IA practices do not feel like “therapy”. Instead, the students feel as though they are learning a new, advantageous skill set during a fun and inclusive practice session.

### Conclusion

Many programs use sport and play as a ‘hook’ and layer their interventions on top once they have a captive audience. Intellectual Athlete identifies teachable moments within sport and play, capitalizing on moments, rules, roles, etc. that address the need for supportive relationships or autonomy and regulation. For example, baseball has the on-deck circle and the batter’s box, basketball has the free throw which are great ways to help young people practice their regulation skills.<sup>14</sup> IA Instructors manufacture opportunities in a practice where a young person goes through the rituals of the on-deck circle and in the batter’s box while helping a young person think about other times they need to regulate- like when taking a test.

## Skills built during IA programs

(Skills which align with Social-Emotional Learning competencies ●)

- Self-awareness ●
- Stress management including identifying and using stress management strategies ●
- Managing one’s emotions ●
- Demonstrating personal agency (through encouragement to participate in new challenges, lead teams, teach skills to others) ●
- Setting personal and collective goals (Sport psychology elective, Motivation, Drive & Activation module) ●
- Growth mindset (through encouragement for young people to take on challenges, learn from mistakes, measured doses of “healthy stress” and uncertainty in games and activities) ●
- Teamwork and collaborative problem-solving through sport and play activities ●
- Showing leadership in groups ●
- Anticipating consequences of one’s actions (through discussions around using breathing to calm down and its’ effect on decision-making and outcome) ●
- Social relationships ●
- Mental skills
- Play
- Resilience
- Rest and Recovery



## Implications for Schools and Key Decisionmakers

K-12 schools would greatly benefit from our program as both an in-school mental health and behavioral health support system, as well as a high quality enrichment program that teaches young people these foundational skills. Elementary and Secondary School Emergency Relief (ESSER) funding intended to address the impact of the Covid-19 pandemic on students could be used to implement our programs.

In addition, physical education (PE) departments can invite Intellectual Athlete instructors to lead PE classes with greater emphasis on mental skills development. Our coaches can then train PE teachers to continue instructing these skills as well.

### Limitations

Some schools had us running sessions for upwards of 35 kids at a time. Relationship building is pivotal for Intellectual Athlete to work. Our programs work best with under 15 kids per instructor.

For parents of students in under resourced communities, participation in surveys was difficult due to language barriers. For some schools, the number of children or parents completing surveys were almost exactly the same as the number of participating children (St. Katherine Drexel parents, Ibarra students). For other programs, the number of parents completing surveys decreased for post-program measurements leading to possible selection bias since the smaller number of parents completing post-surveys may have been more inclined to do so if they felt more positively about the program. Among St. James elective students, the power of our research was not as strong due to a smaller sample size involving only 4 pre-surveys and 6 post-surveys. Small numbers in general mean that effect sizes should be interpreted with caution. This necessitates replication of our findings among larger numbers and ultimately with a robust randomized controlled trial (RCT) design.

With students filling out surveys following an initial explanation by their coach, there is also uncertainty over whether some answers may have been provided in order to 'impress' the coach, although children were asked to answer honestly and that there is no right or wrong answer. Our future research will involve the close consideration of student behavior, teacher and parent interviews, and having children fill out surveys together with parents.

Additionally, we have limited information regarding how long behavioral improvements were sustained (only two interviews) as we have not completed any formal long-term follow-up studies at this time.

### Future Directions

We are interested in enhancing our in-school programs with a "train the teacher" model so that coping skills are used and reinforced school-wide on a daily basis. We believe partnering with the PE teacher and enhancing their ability to integrate mental skills into their game play will give us a further opportunity to make an impact.

The use of validated measures such as the Children Acceptance Mindfulness Measure (CAMP) and the Warwick-Edinburgh Mental Wellbeing Scale will improve the validity of our data throughout future research, and provide robust data. Measuring heart rate as an indicator of physiological arousal (specifically sympathetic activation) and effect on heart rate with breathing and meditation practice will provide meaningful biometric feedback and also show young people, in the moment, that they are able to have control over stress and anxiety reactions through these approaches.

Ultimately, we plan to carry out a randomized controlled trial (RCT) comparing our approach with a traditional behavioral health program.





## Appendix A - Detailed Methods

Each session began with a brief warm up activity/game to get the students moving and excited for the session. Shortly after, the instructor led an open discussion that allowed students to share moments from their life at home, in school, or during sports where they had used a breathing technique or mindfulness practice covered in a previous session. For the first week of the program, the session began with an introduction to the difference between passive breathing and intentional breathing techniques. After the opening discussion, a new breathing technique (e.g. box breath) was taught to the class and practiced together. The students were taught how to use the breathing technique, why the technique is useful, and when they should use it. After practicing the breathing technique, the students engaged in various sports, games, and challenges that promoted physical activity, increased pressure and stress, and provided opportunistic moments for the students to use the learned breathing technique in order to self-regulate, focus, and/or calm down to be successful. During these activities, the instructor facilitated the use of the learned breathing technique by monitoring gameplay and reminding students to breathe when they were visibly stressed or emotionally escalated. For the last 5 to 10 minutes of the session, the group reconvened and found comfortable self-space to engage in a guided meditation led by the instructor. Within the religiously-focused private school, the meditations were re-phrased as “moments of mindfulness” to avoid the suggestion of spirituality.

Similarly, during special elective sessions teaching a wider array of skills, after an opening discussion, the students are taught a new skill from performance psychology such as breathing techniques, imagery, effective self-talk, focus cues, and mindfulness practices. The instructor shows the students how to use the skill, why the skill is useful, and when they should use it. After discussing relevant scenarios where the skill is applicable and practicing the skill as a group, the students engage in various sports and games that promote physical activity and provide opportunities for the students to practice the learned skill.

Prior to teaching students at Ibarra Elementary, we sent a staff survey for a needs assessment, and determined their greatest need was help with impulse control and working with others in a constructive manner (Appendix C).

For evaluation, paper surveys were handed out to children during the first session and at the end of the program. This was an internally developed Likert-scale survey using adapted questions from several validated resilience and mental wellbeing scales, as well as several questions asking directly about use of breathing techniques in sport and daily life. Answers post-program were compared with pre-program answers (average scores for each question and total survey scores, as a reflection of progress in each attribute and overall ‘resilience’, respectively). The parents also filled out the surveys at the start and end of the program to see if their perspectives have changed as well. For bootcamps, parents only completed a post-survey, and every question was phrased in a way to link an attribute to participating in Intellectual Athlete: “because of participating in Intellectual Athlete, when my child feels...”. Lastly, qualitative responses from the students and parents were also recorded in the form of narratives obtained through one-on-one interviews and written vignettes at the end of surveys to receive rich data that explains personal experiences.



## Appendix B - Full Survey Results

**Table 1. Summary of Pre and Post Survey Comparisons for all Four Programs**

Program	Baseline‡	Follow-up‡	Change	Cohen's d
Sport Performance Elective	21	22.1	1.1	0.4
Emotional Regulation Elective	18.6	23.1	4.5	1.3
In-School Enrichment	28.3	36.4	8.2	1
After-School Enrichment	17.4	20.5	3.1	0.6

‡Numbers are average survey scores (parents or children) at the start of the program (baseline) and at the end (follow-up), detailed results in tables below



**Table 2. Ibarra Elementary and St. James Academy Elective Student Answers (Emotional Regulation Elective and Sport Psychology Elective)**

Survey Question	St. James mean score pre	St. James mean score post	Change	Cohen's d (p-value‡)	Ibarra mean score pre	Ibarra mean score post	Change	Cohen's d (p-value‡)
I give up quickly when facing a difficult challenge	3.75	4	0.25	0.71 (0.39)	3.38	3.63	0.25	0.48 (0.35)
I think I can do most things if I try and work at it	-	-	-	-	3.63	3.38	-0.25	-0.34 (0.51)
I know how to cheer myself up when feeling down	3	3	0	0 (1)	2.5	3.13	0.63	0.61 (0.25)
When I feel angry or nervous during sports, I stop and breathe using the box breath or another breath I've learned and then feel better	3	3.33	.33	0.49 (0.45)	1.88	3.88	2	2.4 (0.0007)
When I feel angry or stressed at home, I stop and breathe and then feel better	3	2.17	0.83*	-1.3 (0.06)	2.25	3.25	1	1.25 (0.026)
I use imagery to "see" a move or shot in my mind during sport to boost my performance	2.5	2.5	0	0 (1)	2.5	2.63	0.13	0.12 (0.83)
I use positive and motivational self-talk to boost my confidence during sports or at school	2.75	3.83	1.08	1.7 (-0.1)	2.5	3.25	.75	0.83 (0.17)
I know how to ignore distractions and focus my attention only on the task at hand during sports	3	3.58	0.58	0.78 (0.25)	-	-	-	-
<b>Total</b>	<b>21</b>	<b>22.08</b>	<b>1.08</b>	<b>0.4 (-0.6)</b>	<b>18.63</b>	<b>23.13</b>	<b>4.5</b>	<b>1.3 (-0.0001)</b>

‡paired T-test. What scores mean: Second through last questions answers scored as Never=1, Sometimes=2, Often=3, Always=4. First question scored in reverse.

**Table 3. St. Katherine Drexel Parents Pre and Post Survey Results (In-School Enrichment)**

Survey Question	SKD Mean question score pre (N=8 parents)	SKD Mean question score post (N=7 parents)	Change	Cohen's d (p-value‡)
My child gives up quickly when facing a difficult challenge	3.5	4	0.5	0.42 (0.42)
My child believes they can achieve most things with the right amount of effort and hard work	3.5	3.43	-0.07	-0.05 (0.92)
My child tends to get mad and loses their temper during sports or games	3.25	3.86	0.61	0.46 (0.39)
My child tends to get mad and loses their temper a lot while at home	3.13	3.71	0.58	0.47 (0.38)
My child has been grouchy and in a bad mood recently	3.75	4.29	0.54	0.87 (0.11)
My child knows how to cheer themselves up when feeling down	3.13	3.57	0.44	0.35 (0.51)
My child likes to play sports and games with kids they don't already know	2.63	3.71	1.08	0.52 (0.34)
When my child feels angry during sports, they stop and breathe and then feel better*	1.38	2.43	1.05	0.82 (0.15)
When my child feels angry at home they stop, breathe, and this makes them feel better*	1.75	3	1.25	1.08 (0.06)
My child understands why to breathe—that they can make better decisions and think more clearly*	2.25	4.43	2.18	1.63 (<0.01)
<b>Total</b>	<b>28.27</b>	<b>36.43</b>	<b>8.16</b>	<b>0.95 (0.10)</b>

‡Two-tailed T test. Answers were scored 1=Never, 2=Sometimes, 3=Not Sure, 4=Often, 5=Always except the first, third and fourth questions which were scored in reverse. \*'Not sure' was scored as 1 for these questions as it was judged to likely mean 'no' rather than representing an intermediate option.

## Appendix B – Full Survey Results

**Table 4. Full Results from SANDI Enrichment parent surveys (After-School Enrichment)**

Survey Question	Holmes Jerabek Mean question score pre (n=15)	Holmes Jerabek Mean question score post (n=6)	Change	Cohen's d (p-value‡)
My child gives up quickly when facing a difficult challenge	2.4	2.83	0.43	0.62 (0.15)
My child tends to get mad and loses their temper during sports or games	2.73	3	0.27	0.32 (0.47)
My child tends to get mad and loses their temper a lot while at home	2.8	2.83	0.03	0.03 (0.92)
My child knows how to calm themselves down when all wound up	2.13	2.5	0.37	0.24 (0.72)
My child knows how to cheer themselves up when feeling down	2.2	2.17	-0.03	0.44 (0.46)
My child likes to play sports and games with kids they don't already know	3.27	2.67	-0.6	0.06 (0.92)
When my child feels angry during sports, they stop and breathe and then feel better*	1.27	2.17	0.9	0.97 (0.02)*
When my child feels angry at home they stop, breathe, and this makes them feel better*	1.47	2.17	0.7	0.69 (0.1)*
<b>Total</b>	<b>17.4</b>	<b>20.5</b>	<b>3.1</b>	<b>0.60 (0.16)</b>

‡Two-tailed T test

Answers were scored 1=Never, 2=Sometimes, 3=Often, 4=Always, except the first three questions which were scored in reverse. This means for example one point change on the breathing questions indicates a change from 'Never' to 'Sometimes'.

**Table 5. Parent Post-Program Survey Answers non-Likert Questions**

Survey Question	Percentage agree* Jerabek & Holmes parents (n=6)	Proportion agree* St. Katherine Drexel parents (n=7)
The program had a positive effect on my child's ability to play with other children	83% (50%, 33%) <sup>1</sup>	71% (43%, 29%) <sup>3</sup>
I have seen my child practicing breathing techniques learned at IA classes at home	83% (50%, 33%) <sup>2</sup>	100% (57%, 43%) <sup>2</sup>
This program had a positive effect on my child's confidence when facing a new challenge	83% (33%, 50%) <sup>1</sup>	–

\*Answers considered 'agree' were 'agree' or 'strongly agree' for the first question, 'once or twice' or 'frequently' for the second question, and 'a little' and 'a lot' for the third question. The disagree choice was 'no/not sure/neutral'. <sup>1</sup>A little, A lot <sup>2</sup>Once or twice, frequently <sup>3</sup>Agree, Strongly agree

**Table 6. Post-Bootcamp Parent Survey Answers (Total 8 parents)**

Survey Question	Agree %	Individual answers
Because of participating in Intellectual Athlete's Bootcamp, when my child feels angry or under pressure during sports, they stop and breathe (intentional slow deep breaths such as Box breath or others learned at Bootcamp) and then feel better	88%	(75%, 13%, 0%) <sup>1</sup>
Because of participating in Intellectual Athlete's Bootcamp, when my child feels angry or stressed at home, they stop to breathe (using one of the breathing techniques taught at the Bootcamp) and this makes them feel better	88%	(63%, 25%, 0%) <sup>1</sup>
My child understands why to breathe – that they can make better decisions and think more clearly	100%	(12%, 63%, 25%) <sup>1</sup>
The Bootcamp had a positive effect on my child's ability to play with other children including in a team with other children	88%	(50%, 38%) <sup>2</sup>
The Bootcamp had a positive effect on my child's confidence when facing a new challenge	100%	(62%, 38%) <sup>2</sup>
I have seen my child practicing breathing techniques learned at IA classes at home	88%	(75%, 13%) <sup>3</sup>

<sup>1</sup>Sometimes, Often, Always <sup>2</sup>A little, A lot <sup>3</sup>Once or twice, frequently



## Appendix C - Needs assessment questions and answers Ibarra Elementary staff

What would you say are the main Social-Emotional Learning (SEL) and behavioral intervention needs of this group?<sup>2</sup>

Impulsivity and impatience

Impulse control, anger management, empathy

Think of each individual student in the group—how many of the students exhibit a mindset of ‘can do’ that they are able to and will do well?

I believe I only have one student in this program, and yes, he does have a can do attitude.

2 out of 5 have a can do mindset.

How would you describe the social skills of this group? Do they work well with others? Are they helpful and do they do what’s best for others? Do they listen without interrupting?

They sometimes work well with others, but impulsive behavior sometimes gets in the way of collaboration. They are very helpful, but sometimes jump to help when help might not be needed. Or don’t give others a chance. It is very difficult to listen without interrupting because they always have something to say and believe they know what the person is going to say. It becomes more about being right instead of really listening for the other person’s sake.

Most struggle with group work. They are more disruptive than helpful and don’t appear to take others into consideration. Several choose to make excuses for their behavior rather than calmly listen to what the issue is.

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