



# The Impact of Parent Engagement on Student Outcomes:

## *The FUEL Education Model*

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# COLLEGE ACCESS

- ▶ **Monthly workshops to inform parents**
  - Multi-year curriculum designed to help navigate higher education landscape
  - Vital knowledge for accessing merit and need-based scholarships—and the financial aid system as a whole.
- ▶ **Desired outcome: parents become capable of supporting student's pursuit of higher education**



This is the **FUEL** story

# OUR PROGRAM

- FUEL Education believes that higher education is attainable for all, regardless of income, and that parent engagement is crucial to students' academic achievement.
- “Skin-in-the-game” model
- Low-income families in Boston, Chelsea, and Lynn, MA
- Objective: parents become informed consumers of higher education so they can help their children achieve their college dreams.

# OUR MODEL

## **FUEL is...**

- 1. Parent Engagement**
- 2. College Access Curriculum**
- 3. Incentivized Savings**



**FUEL is parent engagement**

COUNT HOUSE

# PARENT ENGAGEMENT

- ▶ Efforts directed solely at low-income parents.
- ▶ Augment partner organizations (student-focused) with parent program.





**FUEL is college access curriculum**



FUEL Education  
&  
Metro Credit Union



For security reasons, please  
remove hats, hoods and  
sunglasses.



**FUEL is incentivized savings** © 2014 Pownall

# INCENTIVIZED SAVINGS

- ▶ **Financial incentives designed to promote behavior change:**
  - Encourage savings by opening bank account (often their first)
  - Savings bonuses motivate families to meet annual savings goal
  - Raffles encourage regular savings

# KEY INGREDIENTS

THAT MAKE THE FUEL MODEL  
WORK

- ▶ Convenience for families
- ▶ Technology for FUEL

# THE NEED FOR CONVENIENCE FOR FAMILIES

## ▶ **FUEL families face...**

- Time constraints
- Language barriers (for many)
- Economic challenges

# THE SOLUTION

## CONVENIENCE FOR FAMILIES

- ▶ Meetings based on parents' schedule, not ours
- ▶ Meetings offered in multiple languages
- ▶ Meetings include meals to ease parents' burdens

## ▶ **FUEL faces...**

- Mobility issues
- Bank access challenges for families
- Data demands:
  - Attendance
  - Savings
  - Knowledge gain
  - Other outcomes

# THE SOLUTION

## TECHNOLOGY FOR FUEL

### ▶ Hardware



### ▶ Software:

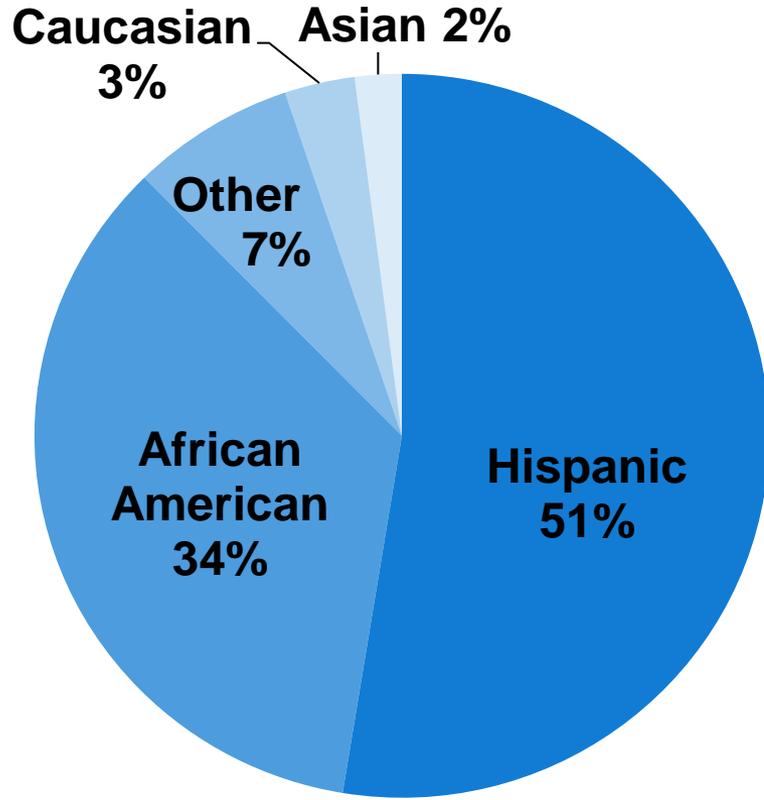
- **Wikispace** hosts curriculum online
- **ETO** tracks attendance, savings, knowledge gain and other outcomes
- **Slideshark** plays presentation
- **CamScanner** mobile app collects banking paperwork
- **Timestation** mobile app collects attendance
- **Pickaperson** facilitates raffles

# FUEL by the Numbers

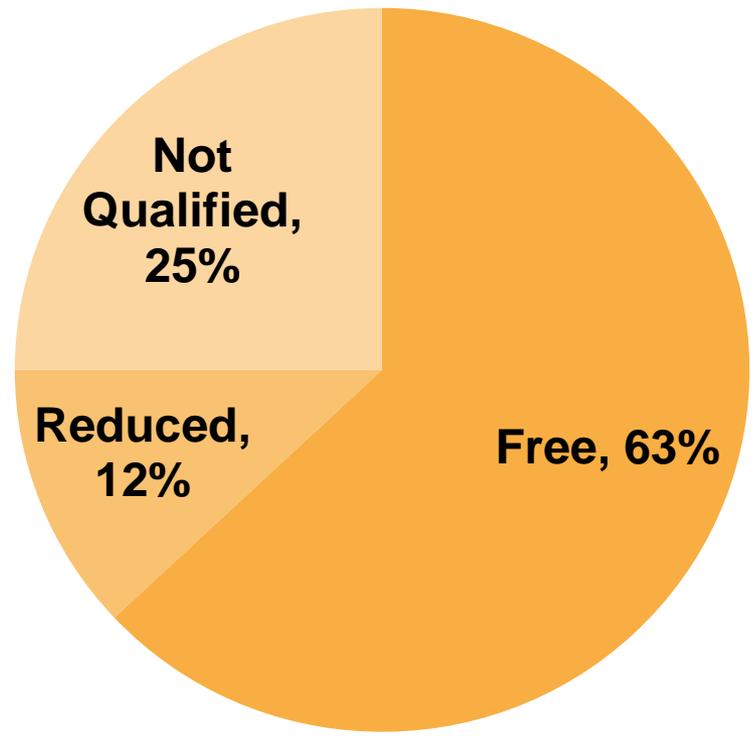
- **4** years old with **7** partners in **3** cities
- Worked with over **500** families with **600** students
- **140** families with **164** students have graduated from FUEL
- Families have saved a total of **\$375,000** since 2009
- **89%** college persistence rate among FUEL alumni's students

# DEMOGRAPHICS

## PROGRAM PARTICIPANTS



**FUEL family demographic distribution**



**Percentage of FUEL students who receive free/reduced lunch**

# The Impact of Parent Engagement on Student Outcomes:

*The Research: An Evaluation of  
FUEL in Chelsea, MA*

# THE QUESTION

Although past research relates higher levels of parental involvement to better student academic performance, little research has been done to document **whether *increasing* parental involvement has a *direct*, positive impact on student achievement.**

→ *Does increasing parental involvement in the college access process improve student achievement?*

→ *When students know their parents are saving for college, do they increase their aspirations and preparation activities?*

# THE RESEARCH

- **Joint with Jodut Hashmi**, Ed.D. Candidate, Harvard Graduate School of Education
- ***Parent Perspective***: Reflections on their involvement with FUEL and whether they use the information offered to them
- ***Student Perspective***: How they perceive their parents' involvement in FUEL and how helpful they believe FUEL's efforts have been
- ***Academic Performance & School Behavior***: Does parental involvement in FUEL have an impact on the academic performance and behavior of their children?

# Surveys, Focus Groups, Interviews

- ▶ **Surveys** (15 minutes to complete)
  - *Fall 2012: n=72*      *Spring 2013: n=65*
  - Parents followed from Fall to Spring: n=46
- ▶ **Focus Groups** (1.5 hours each)
  - Parents      *Fall 2012: 9 English; 7 Spanish*  
                  *Spring 2013: 6 English; 9 Spanish*
  - Students      Two Focus Groups (8 students in Feb 2013; 6 students in Mar 2013)
  - Alumni      One Focus Group (4 alumni; Jun 2013)
- ▶ **Phone Interviews with Parents** (1 hour each)
  - 4 in English and 6 in Spanish (Jun and Jul 2013)

# Analyzing School Records

- ▶ Does parental involvement in FUEL have an impact on the performance and behavior of their children?
  - High school course selection
  - Course performance and MCAS scores
  - Student attendance rates at school
  - Student behavior/discipline reports
  
- ▶ Student-level school records: 2008-09 to 2012-13
  - Chelsea High School students
    - FUEL participants
    - Rest of the student body (**comparison group #1**)
  - Lowell High School students (**comparison group #2**)

# FUEL & the Chelsea Public Schools

- ▶ City median income: \$40,487 (2010)
- ▶ Focus of the research: Chelsea High School (only public secondary school in Chelsea)
- ▶ HS graduation rate 50-55% during last 10 years
- ▶ Less than a quarter of Chelsea High School students progress to any form of higher education
- ▶ In 2011, on state standardized assessment test:
  - 40% of 10<sup>th</sup> grade students got “fail” or “needs improvement” on the English MCAS
  - 46% got these scores on the math MCAS
  - 64% got these scores on the science MCAS

# Who are the families?

Among Chelsea families in FUEL, just 17% speak English at home and virtually all are low-income

	<b>Parents</b> (survey)	<b>Students</b> (school records)
White	11.4	8.3
Black	11.4	10.0
Latino	75.0	79.4
Asian	2.0	2.2
Born in the U.S.	13.3	--
Female	78.7	53.9
Age (2012-13)	45.1	17.1
Married	61.4	--

# The Student Profile

## From school records

### ▶ Free or Reduced-Priced Lunch Status

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Free	57.79
Reduced	18.83
Full Pay	23.38

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### ▶ FUEL Participants: Grade in 2008-09

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Grade 9	15.56
Grade 10	21.11
Grade 11	25.56
Grade 12	10.56

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Dropout	1.11
HS Graduate	16.67

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# The Student Profile

## From school records

### ▶ Country of Origin – top selections

123	United States
16	El Salvador
7	Somalia
6	Iraq
5	Guatemala
3	Colombia
3	Dominican Republic
3	Honduras

# How has FUEL impacted parents?

- Increased “college knowledge”
- Raised educational expectations for their children
- Parents report being more involved in specific college preparatory activities from fall to spring

# Increased “college knowledge”

- ▶ True/false questions about their level of knowledge on topics covered by the FUEL
- ▶ Increases in correct answers from fall to spring
- ▶ Difference over time was statistically significant:
  - More marked “true” to : “It is possible to receive fee waivers to pay for the SAT and ACT examinations”
  - More marked “true” to : “It is necessary to apply for financial aid every year that your child is in college”

# Increased “college knowledge”

- ▶ More parents accurately responded to questions about tuition cost in the spring...

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	Fall	Spring	Diff
<b>Tuition cost to attend a 2-year public for one year?</b> (n=40)	<b>3.575</b> (0.214)	<b>2.875</b> (0.218)	<b>-0.70**</b> (0.266)

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- ▶ Spring: they came closer to the correct answer (\$500-1,000), though they still overestimated the cost

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	Fall	Spring	Diff
<b>Do you know what the FAFSA is?</b> (n=38)	<b>0.684</b> (0.076)	<b>0.947</b> (0.037)	<b>0.263**</b> (0.082)

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\*\*p<.05 “1” = Yes and “0” = No. Std Errors in parentheses. Two-tailed significance test.

# Raised Expectations

- ▶ **What is the highest level of education that you expect your child to attain? (n=43)**
- ▶ **Highest level increase from fall to spring**

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<b>Fall</b>	<b>Spring</b>	<b>Diff</b>
<b>5.154</b>	<b>5.795</b>	<b>0.641**</b>
(0.203)	(0.263)	(0.283)

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1 – High school degree or GED

2 – Work Certificate

3 – Associate's degree

4 – Bachelor's degree

5 – Master's degree

6 – Ph.D.

7 – Professional degree

# Increased College Activities

	Fall	Spring	Diff
Have you and your child identified some of the colleges your child will apply to? (n=43)	<b>0.465</b> (0.077)	<b>0.651</b> (0.074)	<b>0.186*</b> (0.101)
Have you spoken to your child's guidance counselor about the steps you and your child should take to prepare for college? (n=44)	<b>0.295</b> (0.070)	<b>0.341</b> (0.072)	<b>0.045</b> (0.090)
Have you spoken to a teacher at your child's school about the steps you and your child should take to prepare for college? (n=44)	<b>0.364</b> (0.073)	<b>0.477</b> (0.076)	<b>0.114</b> (0.087)
Have you or your child started to work on scholarship applications? (n=40)	<b>2.075</b> (0.042)	<b>2.45</b> (0.080)	<b>0.375**</b> (0.078)

# How does parental involvement affect the student?

- Some students participate in FUEL
- The workshops have increased parental and student knowledge about how to prepare and pay for college
- Involvement in FUEL spurs parents to be more encouraging of their children and participate in college preparatory activities

From the Spring 2013 Student Focus Groups...

# Student Involvement in FUEL

- ▶ “My mom does work late some days, so like I’ll come. Or **even when she comes I’ll come either way**, because I mean like I’m at the point where I am almost a senior... and I always want to be warning myself too.”
- ▶ “Like I knew about the SATs and things like that, I knew that you could get scholarships and whatnot, but **I didn’t really know how to get them or what you had to actually do** or work hard in to actually be able to like get them or where to sign up or where to look for different stuff, like different sources or whatnot.”

# Informing the Parents

- ▶ “I know these things – they tell us in school, but they don’t tell your parents. Your parents are kind of in the dark about it, especially if they come from another country and they’re not used to the system. So FUEL will explain everything to my mom in terms that she got it **and she’s on the same page with me** and when I tell her, ‘Oh, we need to make an appointment with TRIO to fill this out or we need to send this out,’ she knows what I’m talking about.”

# Changing the Behavior of Parents

- ▶ “FUEL has helped me have somewhere to start saving money because before my mom joined FUEL we didn’t save any money and we kind of didn’t know where to start. But now how we put money every month into the [Metro Bank], that has really said like okay at least we have somewhere to begin.”

# Changing the Behavior of Parents

- ▶ “I feel like it’s also opened up my mom’s eyes up more, she encourages more. Like to do good in school, she expects more of me even though like I’ve done great now and before...Like for example if I get like a B, she’ll be like ‘You should try to strive to get an A, because A is like better...’”
- ▶ My dad is far more strict than he was before because he had known a little, like the SATs and stuff like that, and now he’s pressuring me to take them and all the tests that we have to do, and my grades.”

# Changing the Behavior of Parents

- ▶ “For me I notice that they’re more willing to do stuff for me like if they hadn’t know about all this college stuff and how important it is, I don’t think... cause my parents actually drove all the way to Amherst just to go to an open house and before I think they would have been like, “You don’t need to go. Why do you want to go there so much?” Or like, “Why do you care?” But they actually took the time out of their day to drive those two hours and I thought that was real nice.”

# Has FUEL impacted student achievement?

- *Research Concern:* FUEL families may be different (more motivated than other families)
  - Parents in FUEL increased their aspirations and are more likely to take part in activities
  - Students report that their parents have become more encouraging and engaged
- FUEL is having an effect on engagement and the specific activities of parents
- ***Do we see an impact on student achievement?***

# Comparing Student Achievement

- ▶ FUEL Full-Year Participants (n=41)
  - ▶ Never participated in FUEL (n=641)
  - ▶ Withdrew from FUEL (n=16)
    - Parents indicated initial interest and attended a meeting → May be similarly motivated as FUEL parents
    - Perhaps they withdrew due to lack of commitment , unfortunate family circumstance, or participation in another program
- Interesting comparison group

# Comparing Student Achievement

- ▶ Might expect to see different trajectories through school if FUEL made a difference

	ENGLISH		MATH	
	Grade 9	Grade 12	Grade 9	Grade 12
FUEL Participant	82.76	76.88	79.82	79.09
Withdrew	84.35	75.44	77.64	69.00
Not a Participant	73.68	71.76	66.33	69.59

- ▶ FUEL participants do look different (higher grades even in 9<sup>th</sup> grade)
- ▶ Gap between those who persisted in FUEL and those who withdrew increased over time

# Other Comparisons

- ▶ **Pre- versus Post-FUEL participation**
  - Limited evidence that math grades increase
  - Small sample size
  
- ▶ **FUEL students (Chelsea) to Students at Lowell High School**
  - FUEL students do much better than similar students at Lowell (where FUEL is not available)

# The Longer-Term Outcomes

- ▶ **2013 College Persistence Report** - Michelle Murphy
- ▶ Data supplied by National Student Clearinghouse; supplemented by information from partners
- ▶ Persistence rates far higher than for other students, especially those from low-income backgrounds

HS Grad Year	# FUEL Graduates	# Persist	Percentage
2010	21	17	81%
2011	29	26	89%
2012	58	55	94%

# THE RESEARCH: Conclusions

- FUEL has given parents and students important information about how to prepare for college academically and financially
- Families are actively using that information to do specific tasks (e.g., visit colleges)
- Students report more parental encouragement and engagement
- Suggestive evidence that parental involvement does influence achievement
- FUEL students do better compared to non-FUEL students within and outside of their school

# We've received recognition for our model...



Winner of 2012  
Massachusetts  
Nonprofit Network's  
Excellence in  
Innovation Award



"Triple play" in  
Chelsea: FUEL,  
Chelsea Public  
Schools and  
Chelsea High FUEL  
student won 2013  
College Board

THE  
HUFFINGTON  
POST

Founder Bob  
Hildreth a  
contributor to  
Huffington Post  
Blog

# Reward: Family Impact



**Bahiya is now pre-med on scholarship at UMass Amherst**

# FOOTNOTE

## FUEL TECHNOLOGY COSTS

### ▶ Hardware:

- **Ipad Mini 16 GB:** \$329.00
- **AV Adapters:** \$98.00
- **Internet Router:** \$50.00
- **3M Mini projector:**  
\$316.00
- **Speaker:** \$15.00

**GRAND TOTAL:** \$808

### ▶ Software:

- All FUEL **facilitation** software is free.
- Efforts-to-Outcomes, FUEL's data tracking software, is both an upfront and monthly expense. Although it streamlines data collection during our monthly meetings it is NOT necessary for program facilitation.

## FUEL has two basic models:

- 1. Matched Savings Model:**
  - 1:1 match for family savings up to \$1,500
  - Model requires major donor support (ex. In the City of Chelsea, the business community funds the match)
- 2. Savings Bonus Model:**
  - \$300 maximum “savings bonus” provided to each program participant
  - Model effective in resource-limited communities in which FUEL and partner program share financial responsibility for the savings match