

BARR[®]

Impacting 9th grade Educational Outcomes: Results from a Three-Year Randomized Controlled Trial

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Background

Background

- Each year, nearly 500,000 students leave high school before graduating (Center for Promise, 2005).
- Compared to their graduating peers, these students:
 - are less likely to be employed,
 - will earn lower incomes,
 - are more likely to require social services,
 - are more likely to be involved with the justice system.
 - » (Caterall, 2011; Civic Enterprises, 2015; Rouse, 2007; Sum et al, 2009)
- Ninth grade dropout and failure rates are higher than in any other grade (McCallumore & Sparapani, 2010).

Background

- Students on track at the end of their freshman year are more likely to graduate from high school within four years than their off-track peers (Allensworth & Easton, 2007).
- Teachers who feel isolated can experience depression, exhaustion, reduced empathy, and a lack of feelings of personal accomplishment (Halbesleben, 2006; Mahan et al., 2010).
- Strong student–teacher relationships can yield increases in student attendance, academic performance, and decreases in student behavior problems (Allen, Pianta, Gregory, Mikami, & Lun, 2011).

BARR Model



Building

Assets

Reducing

Risks

BARR Model

- The BARR model builds positive, intentional, relationships among and between students and teachers.
- Ninth grade is restructured into teacher teams of shared students composed of three or four core academic teachers as well as one or more school counselors.
- BARR teachers use real-time student data to drive instructional change and identify nonacademic supports when needed.



BARR Model



BARR consists of **eight** core strategies

- Strategy 1: Relationship-Building **Professional Development** for Teachers, Counselors, and Administrators
- Strategy 2: **Restructuring** the High School Course Schedule
- Strategy 3: **Whole Student Emphasis** in Instructional Reform
- Strategy 4: **Block Meetings**, Collaborative Problem Solving
- Strategy 5: Developmental Assets **Curriculum** (I-Time)
- Strategy 6: **Risk Review** for Persistently Failing Students
- Strategy 7: **Contextual Support** (Focusing on Leadership)
- Strategy 8: **Parent Involvement**

Prior Research on BARR

- In 2011–12, a randomized controlled trial (RCT) in one large urban school district yielded positive impacts on students and teachers.
- Compared with students not assigned to BARR:
 - BARR students earned more credits,
 - BARR students scored higher on both reading and mathematics standardized tests,
 - BARR students had fewer course failures.
- BARR teachers felt more connected to students, other teachers, and their schools, and they reported higher levels of teacher effectiveness than those not implementing BARR.

Source: Corsello, Sharma & Jerabek, 2015.

Study Design, Sample & Measures

Study Overview

- Three cohorts of schools
 - 2014–15, 2015–16, and 2016–17
 - Eleven schools total
- Participants in this study
 - All eligible ninth-grade students
 - Core academic teachers
 - School counselors, administrators, BARR coordinator
- Study includes measures of:
 - Implementation
 - Student academic outcomes
 - Student and teacher perceptions

Sample

- School sample (11 total)
 - California (6); Maine (2); Minnesota (1); Kentucky (1), Texas (1)
 - Rural (3); Suburban (7); urban (1)
- Student sample
 - 4,168 students
 - » BARR students = 1,785
 - » Control students = 2,383
 - 75% Minority
 - 79% Eligible for Free or Reduced-Price Lunch
 - 30% English Learners
 - 8% Special Education Status
- Teacher Sample
 - 57 BARR
 - 117 Comparison

Results: Cohorts 1–3 (2014–15, 2015–16, 2016-17)

Student Outcomes—Percentage of Total Credits Earned in Core Courses

Outcome Measures	BARR	Control	Diff	p Value	Effect Size
Total credits earned <i>N students: T= 1,467; C=1,916</i>	88.2	82.8	5.4	p<.001	0.14
--ELA credits earned	91.4	81.4	10.0	p<.001	0.26
--Science credits earned	88.4	83.7	4.7	p<.001	0.13
--Math credits earned	83.9	82.5	1.4	n.s	0.04
--Social Studies credits earned	96.8	94.5	2.3	n.s	0.10

Note: n.s. = not statistically significant, $p > .05$.

Student Outcomes—Percentage of Total Credits Earned; by Subgroup

Outcome Measures	BARR	Control	Diff	<i>p</i> Value	Effect Size
Total Credits earned <i>N students: T= 1,467; C=1,916</i>	88.2	82.8	5.4	$p < .001$	0.14
Female	90.9	88.6	2.3	$p < .05$	0.07
Male	85.8	77.3	8.5	$p < .001$	0.20
Students of color	84.7	78.3	6.4	$p < .001$	0.16
White	90.7	88.3	2.4	n.s	0.07
Free or reduced price lunch	86.7	80.7	6.0	$p < .001$	0.15
Non-FRPL	95.3	90.7	4.6	$p < .01$	0.16

Note: n.s. = not statistically significant, $p > .05$.

Student Outcomes—Percentage of Core Courses Passed; by Subgroup

Outcome Measures	BARR	Control	Diff	p Value	Effect Size
Passing all core courses <i>N students: T=1,467 ; C=1,916</i>	60.5	44.7	15.8	p<.001	0.32
Female	74.6	65.6	8.9	p<.001	0.19
Male	62.0	42.6	19.5	p<.001	0.39
Students of color	46.1	29.4	16.8	p<.001	0.37
White	88.6	85.0	3.6	n.s	0.10
Free or reduced price lunch	52.4	35.3	17.1	p<.001	0.36
Non-FRPL	77.5	68.7	8.8	p<.05	0.19

Note: n.s. = not statistically significant, $p > .05$.

Student Survey Measures

- **Supportive relationships**
 - Students feel that their teachers are supportive of their interests and invested in their emotional well-being.
- **Expectation and rigor**
 - Students believe teachers have high expectations for their performance, provide clear guidelines, and encourage them to be successful.
- **Student engagement**
 - Students actively prepare for and participate in class activities, ask questions, and are interested in the lesson.
- **Sense of belonging**
 - Students feel respected, accepted, and understood by their peers and that they belong with their classmates.
- **Social and emotional learning**
 - Students believe their classmates are capable of working through disagreements, managing their emotions, and acting responsibly.
- **Grit**
 - Students can focus on, and work toward, meeting goals even when they encounter setbacks.

Student Survey Outcomes

Student Outcome	N	BARR	Control	Difference	p value	Effect Size
Supportive relationships	2,714	51.6	48.7	2.9***	p<.001	0.29
Expectations and rigor	2,743	51.3	48.9	2.5***	p<.001	0.25
Student engagement	2,719	50.6	49.5	1.1**	p<.01	0.11
Sense of belonging	2,690	50.2	49.8	0.5	n.s.	0.05
Social and emotional learning	2,698	50.1	49.9	0.2	n.s.	0.02
Grit	2,683	50.0	50.0	0.0	n.s.	0.00

Note: n.s. = not statistically significant, $p > .05$.

Teacher Survey Measures

- **Teacher collaboration with, and view of, colleagues**
 - Teachers work together, trust each other, and have shared responsibilities and teaching approach.
- **Teacher use of data**
 - Teachers have access to data, discuss data, and use data to differentiate instruction for students.
- **View of school's supports**
 - Teachers feel the school provides students and staff with necessary resources and support services.
- **Teacher self-efficacy**
 - Teachers believe they have the ability and the power to affect learning, motivation, and behavior in classrooms.
- **Perception of students' behavior, commitment, and attitudes**
 - What teachers think students would do to help their peers or make the right choices in a given situation.
- **View of students' actual behavior, commitment, and attitudes**
 - What teachers observe students doing in classrooms related to goal setting, motivation, and completing work.
- **Interaction with parents**
 - Teachers feel confident engaging with parents and helping them understand what students need to learn.
- **View of student accountability**
 - Teachers believe students are accountable for their own learning and grades, and should meet all deadlines.

Teacher Survey Outcomes

Teacher Outcome	N	BARR	Control	Diff	p value	Effect Size
Teacher collaboration with, and view of, colleagues	110	56.7	45.0	11.7	p<.001	1.17
Teacher use of data	109	55.7	45.7	10.0	p<.001	1.00
View of the school's supports	111	53.5	47.5	5.9	p<.01	0.59
Teacher self-efficacy	112	52.9	47.9	5.0	p<.01	0.50
Perception of students' behavior	111	52.7	48.0	4.7*	p<.05	0.47
View of students' actual behavior	113	52.6	48.1	4.5	p<.05	0.45
Interaction with parents	111	52.1	48.5	3.5	n.s.	0.35
View of student accountability	110	50.3	49.8	0.5	n.s.	0.05

Note: n.s. = not statistically significant, $p > .05$.

Effect sizes calculated using Cohen's *d* formula. These group differences are not impact estimates because teachers were not randomly assigned to the treatment or control group. Therefore, although these differences are associated with BARR participation, they may (partially) reflect pre-existing differences between BARR teachers and control teachers.

Summary

- BARR has a positive, statistically significant, impact on student performance in core academic courses.
- This impact is seen for all subgroups of students; however, the estimate for white students, although positive, is not statistically significant.
- Student served by BARR report higher levels of support, expectations, and engagement than students not served by BARR.
- Teachers participating in BARR report higher levels of collaboration, use of data, and school support, as well as higher expectations for student prosocial behaviors.

Moving Forward

- **Next Steps**

- Analyze and report impact on standardized test scores
- Analyze and report impact on behavioral measures (attendance, discipline referrals).

- **Currently**

- Investigating the impact of BARR on student and teacher outcomes in 66 schools across 5 regions.

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