



AMERICAN INSTITUTES FOR RESEARCH®

## Memo

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**Date:** January 23, 2018  
**To:** BARR Center  
**From:** American Institutes for Research  
**Re:** I3 BARR Validation Study Student Survey Results

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### Introduction

The Building Assets, Reducing Risks (BARR) model is a comprehensive, strength-based approach to education that aims to improve achievement for all students by improving a school's effectiveness at building relationships, leveraging real-time student data, and capitalizing on the strengths of each student. The U.S. Department of Education's Investing in Innovation (i3) program provided the BARR developers with a validation grant that made funding available to bring the BARR model to more high schools around the country. American Institutes for Research (AIR) is conducting an independent evaluation of the impact of the BARR model on student outcomes in 11 high schools over the course of 3 years (2014–15 to 2016–17).

One of the primary objectives of the BARR model is to develop and foster better student-teacher and teacher-teacher relationships. By creating structures and activities to bring teachers together and to deepen teachers' relationships with their students, BARR aims to enhance teacher effectiveness as well as improve student engagement and the student experience. This memo presents impact findings from survey data comparing the outcomes of treatment and control students at participating schools along with some exemplary quotes.

### Student Survey Results

To evaluate the experiences of the BARR students and control students in ninth grade during the study year, we administered surveys to participating students at all study schools. These online surveys compared whether students in the BARR group and control group reported different experiences and opinions related to six constructs. The sample contains students from all three cohorts, with a total of 2,747 ninth-grade students in 11 participating schools (BARR = 1,264 and non-BARR = 1,483).

We administered survey items from several validated protocols (i.e., Academic Engagement Scale [AES], Consortium for Chicago School Reform [CCSR] high school survey, Duckworth's Perseverance of Effort scale, Measures for Effective Teaching [MET] Project, Panorama student survey) as well as survey items created specifically for this evaluation. Table 1 provides definitions of each of the constructs measured for this study.

**Table 1. Student Survey Construct Definitions**

Constructs	Definitions
Supportive relationships	Students feel that their teachers are supportive of their interests and invested in their emotional well-being.
Expectations 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 are able to focus on and work toward meeting goals even when they encounter setbacks.

Table 2 presents the results from a statistical comparison between the responses of the BARR and control students on a range of survey measures, in the form of scale scores. Note that the survey scale scores for each student were standardized to a mean of 50 and a standard deviation of 10 based on results from an ordinary least squares (OLS) model.<sup>1</sup> Scale scores above 50 are more positive and scores below are more negative for each construct.

All student impact estimates shown in Table 2 favored the BARR group, with the impacts on three out of six survey constructs reaching statistical significance. The effect size for these three impact estimates ranged from 0.11 to 0.29, with a higher effect size indicating a greater impact.

**Table 2. Impacts on Student Experiences from Student Surveys**

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

Source. AIR calculations from AIR-administered student surveys.

Note. \*\* = statistically significant at the  $p < .01$  level, \*\*\* = statistically significant at the  $p < .001$  level.

For the statistically significant impact estimates, we disaggregated the sample into six student subgroups to explore group variations: females, males, students of color, white students, students eligible for free and reduced price lunch (FRPL), and students not eligible for FRPL. White students were the only group for whom we did not find any statistically significant subgroup impacts. (See Tables 3 through 8.)

<sup>1</sup> All OLS impact models included student-level background characteristics (e.g., race, gender, FRPL status), a test of prior student achievement (i.e., students' fall NWEA MAP scores), and treatment indicator.

**Table 3. Impacts on Student Experiences From Student Survey (Females)**

Student-Reported Outcome	N	BARR	Control	Difference	Effect Size
Supportive relationships	1,343	51.6	48.7	2.9***	0.29
Expectations and rigor	1,354	50.9	49.4	1.6**	0.16
Student engagement	1,344	50.9	50.0	1.0	0.1

Note. \*\* = statistically significant at the  $p < .01$  level, \*\*\* = statistically significant at the  $p < .001$  level.

**Table 4. Impacts on Student Experiences From Student Survey (Males)**

Student-Reported Outcome	N	BARR	Control	Difference	Effect Size
Supportive relationships	1,371	51.5	48.6	2.9***	0.29
Expectations and rigor	1,389	51.7	48.4	3.3***	0.33
Student engagement	1,375	50.2	49.1	1.1	0.11

Note. \*\*\* = statistically significant at the  $p < .001$  level.

**Table 5. Impacts on Student Experiences From Student Survey (Students of Color)**

Student-Reported Outcome	N	BARR	Control	Difference	Effect Size
Supportive relationships	2,002	51.3	47.8	3.5***	0.35
Expectations and rigor	2,018	51.5	48.6	2.9***	0.29
Student engagement	2,002	50.5	49.1	1.3**	0.13

Note. \*\* = statistically significant at the  $p < .01$  level, \*\*\* = statistically significant at the  $p < .001$  level.

**Table 6. Impacts on Student Experiences From Student Survey (White Students)**

Student-Reported Outcome	N	BARR	Control	Difference	Effect Size
Supportive relationships	712	52.4	51.1	1.3	0.13
Expectations and rigor	725	50.9	49.7	1.2	0.12
Student engagement	717	51.0	50.6	0.3	0.03

**Table 7. Impacts on Student Experiences From Student Survey (FRPL-Eligible Students)**

Student-Reported Outcome	N	BARR	Control	Difference	Effect Size
Supportive relationships	2,090	51.1	48.2	2.9***	0.29
Expectations and rigor	2,113	51.2	48.7	2.6***	0.26
Student engagement	2,092	50.3	49.4	0.9*	0.09

Note. \* = statistically significant at the  $p < .05$  level, \*\*\* = statistically significant at the  $p < .001$  level.

**Table 8. Impacts on Student Experiences From Student Survey (Non-FRPL-Eligible Students)**

Student-Reported Outcome	N	BARR	Control	Difference	Effect Size
Supportive relationships	624	53.1	50.2	2.9***	0.29
Expectations and rigor	630	51.8	49.5	2.2**	0.22
Student engagement	627	51.7	49.9	1.8*	0.18

Note. \* = statistically significant at the  $p < .05$  level, \*\* = statistically significant at the  $p < .01$  level, \*\*\* = statistically significant at the  $p < .001$  level.

Based on the analysis of survey data, students in the BARR group reported at statistically significant levels that they felt more supported by their teachers, their teachers had higher expectations of them, and they were more engaged in school than control students. Example comments from BARR students provided in the student survey are presented here.

**BARR students reported feeling significantly more supported by and connected with their teachers than control students.**

**Quote 1:** *“[My BARR teachers] are some of the best teachers I have ever had. They understand me and are very thorough teachers.”* – BARR student, Maine

**Quote 2:** *“In high school, I feel that I’m more close to my teachers and that some of my teachers generally do care about more than just a paycheck. Teachers can be your friends because now rather than middle school, they treat you like more than just a student.”* – BARR student, California

**Quote 3:** *“I personally had a great experience with BARR. I’ve never felt so close to teachers as I do with my BARR teachers. I also feel like I understand a lot of people in my grade better than before.”* – BARR student, Minnesota

**BARR students reported feeling significantly more academic support and higher expectations from their teachers than control students.** *“This year it was amazing even though some classes were hard I still made out good, and now I have a good grade. You should never give up in your work and always stay positive because [what] you want in the future will come true only if you work hard enough and never give up. You should always have a connection with your classmates and your teachers because those people would be the ones that would help you a lot in school.”* – BARR student, California

**BARR students reported feeling significantly higher levels of classroom engagement than control students.** *“I liked my English teacher because she always tried to give choices. We could do presentations, skits, the projects were fun and engaging. She also gave the choice of a test for those who didn’t want to do the project, or couldn’t, and would let students come into her classroom before and after school, as well as during lunch to talk to her if they didn’t understand a subject.”* – BARR student, California