

## WWC Review of the Report “Can Scholarships Alone Help Students Succeed? Lessons from Two New York City Community Colleges”<sup>1</sup>

The findings from this review do not reflect the full body of research evidence on performance-based scholarships.

### What is this study about?

The study examined the effects of performance-based scholarships on low-income community college students (ages 22–35) living on their own who were required to enroll in remedial courses. These requirements were specifically chosen to target students who were most at risk of having financial difficulties in paying for college. All study subjects were eligible for Pell Grants.

Study authors randomly assigned 1,502 students at two New York City community colleges into one of three groups: (a) a performance-based scholarship group in which students were offered up to \$2,600 in scholarships for two semesters; (b) a performance-based scholarship group in which students were offered up to \$3,900 in scholarships over two semesters plus one summer term; or (c) a no-scholarship group, though these students were still eligible to receive other financial aid. Scholarships were awarded directly to students, on top of their existing financial aid, at the beginning, middle, and end of each semester, contingent on their continued enrollment and grades. The authors combined the two scholarship groups for most analyses.<sup>2</sup>

The authors used student transcript data to evaluate the impact of the scholarships on continued community college enrollment, credits earned, and grade-point average (GPA).<sup>3</sup>

These outcomes were measured at the end of each of the two semesters during which the scholarship program operated, and at the end of each of the two semesters after the program ended.<sup>4</sup>

### Features of the Performance-Based Scholarship Program in New York City

The performance-based scholarship program in this study was one of six being studied as part of MDRC’s national Performance-Based Scholarship (PBS) Demonstration, which was designed to evaluate whether scholarships are effective for improving academic outcomes among low-income college students.

In the New York City program, students assigned to the scholarship program could receive up to \$2,600 over two semesters, or up to \$3,900 over two semesters plus a summer semester. Payments were contingent upon maintaining a minimum level of enrollment and grades, and were made directly to students. While other sites in the PBS Demonstration included tutoring or advising services along with scholarships, the program in New York City was a test of a scholarship-only program, with no services attached to the award. It targeted adult students living on their own who were in need of remedial courses, and aimed to learn whether these scholarships were an effective way to help students stay enrolled and progress academically.

### What did the study find?

The study authors reported no statistically significant differences between the scholarship groups and the comparison group for any type of enrollment (i.e., full-time and part-time enrollment combined) at the end of the two scholarship semesters, one semester after the scholarship ended, or two semesters after the scholarship ended. However, the authors reported, and the WWC confirmed, a statistically significant difference between the scholarship groups and the comparison group in full-time enrollment status at the end of two semesters.

Study authors reported no statistically significant differences between the scholarship and comparison groups for credits earned or academic achievement at the end of the two scholarship semesters, one semester after the scholarship ended, or two semesters after the scholarship ended.

### WWC Rating

***The research described in this report meets WWC evidence standards without reservations***

**Strengths:** The study is a well-implemented randomized controlled trial.

### Appendix A: Study details

Patel, R., & Rudd, T. (2012). *Can scholarships alone help students succeed? Lessons from two New York City community colleges*. New York: MDRC. Retrieved from <http://www.mdrc.org/can-scholarships-alone-help-students-succeed>

**Setting** The study was conducted in two New York City community colleges from the fall of 2008 through the summer of 2010.

**Study sample** Two New York City community colleges participated in the study, one in Manhattan and one in the Bronx. The program targeted new and continuing students between the ages of 22 and 35 at the two colleges. Students were also required to be: living on their own, enrolled in at least six credit hours when enrolled in the study, eligible for a federal Pell Grant, and required to take at least one remedial course. Study authors recruited and then randomly assigned 1,502 students into two scholarship groups and one business-as-usual comparison group. Intervention group students were about 70% female. Over half were between the ages of 22 and 26, and 74% were unmarried. About 44% of the intervention group students were Hispanic, and about 36% were African American. Slightly more than half of the intervention participants were employed (56.5%) and about two-thirds (66.2%) had completed twelfth grade. There were no significant differences between the intervention and comparison groups at baseline on gender, race, government benefits status, or high school graduation status.

**Intervention group** There were two intervention groups in the study. In the first group, students were offered a performance-based scholarship for two semesters (up to \$2,600). In the second group, students were offered a performance-based scholarship for two semesters plus one summer term (up to \$3,900). Scholarships were awarded directly to students, on top of their existing financial aid, at the beginning, middle, and end of each semester, contingent on their continued enrollment and grades. The two intervention groups were combined by the authors for most analyses.

**Comparison group** Students in the comparison group were not offered a performance-based scholarship, though they were still eligible to receive other financial aid. Comparison group students received an average of \$3,136 in financial aid from other sources during the first program semester, a difference of \$1,191 from the financial aid and scholarships received by students in the intervention groups. The study authors reported that the difference in financial aid received by the intervention and comparison groups was statistically significant.

**Outcomes and measurement** The following outcomes were reported at the end of each of four semesters: (a) enrollment in community college, full-time or part-time; (b) enrollment in community college, full-time; (c) total credits earned; (d) college-level credits earned; (e) developmental credits earned; (f) percent with better than a “C” average in six credits; (f) GPA. In addition, the WWC computed the ratio of credits earned to credits attempted from the data reported in the study.<sup>5</sup> The community colleges provided transcript data for the sample members in the study; all outcomes were derived from these transcript data. For a more detailed description of these outcome measures, see Appendix B.

### **Support for implementation**

Study authors reported that both colleges had designated staff to manage and implement the intervention. In addition to the senior staff, both colleges had coordinators who were responsible for the day-to-day implementation of the intervention. The authors reported that the scholarships were delivered as intended over the duration of the study, there was a high rate of participation among students in the intervention group, and students in the comparison group did not have access to a similar program.

### **Reason for review**

This study was identified for review by the WWC by receiving significant media attention.

**Appendix B: Outcome measures for each domain**

<b>Enrollment</b>	
<i>Enrollment</i>	Community college enrollment was used as the outcome at the end of the two semesters during which the scholarship program operated and for two semesters after the scholarship program had ended. Enrollment information was obtained from transcript data provided by the two community colleges.
<b>Credit accumulation</b>	
<i>Credits earned</i>	Information on the total number of credits earned per student was collected at the end of the two semesters during which the scholarship program operated and for two semesters after the scholarship program had ended. The information was obtained from transcript data provided by the two community colleges.
<i>College-level credits earned</i>	Information on the total number of college-level credits earned per student was collected at the end of the two semesters during which the scholarship program operated and for two semesters after the scholarship program had ended. The information was obtained from transcript data provided by the two community colleges.
<i>Developmental credits earned</i>	Information on the total number of developmental (or remedial) course credits earned per student was collected at the end of the two semesters during which the scholarship program operated and for two semesters after the scholarship program had ended. The information was obtained from transcript data provided by the two community colleges.
<i>Ratio of credits earned to credits attempted</i>	The WWC computed the ratio of credits earned to credits attempted at the end of each of the four semesters using data reported in the study.
<b>Academic achievement</b>	
<i>Earned a "C" or better in six or more credits</i>	Information on grades was collected at the end of the two semesters during which the scholarship program operated and for two semesters after the scholarship program had ended. The information was obtained from transcript data provided by the two community colleges.
<i>Term GPA</i>	Information on grades was collected at the end of the two semesters during which the scholarship program operated and for two semesters after the scholarship program had ended. The information was obtained from transcript data provided by the two community colleges. Effect sizes for this outcome were computed using information provided in the study report and information provided directly to the WWC by the study authors.

**Table Notes:** The study also provided results for part-time enrollment and credits attempted each semester. Part-time enrollment was not included in this report because effect sizes computed on part-time enrollment would have combined full-time enrollees with non-enrollees; dichotomizing an essentially ordinal variable in this way would not result in an informative comparison. Credits attempted were not included in this report because they are not eligible outcomes as specified in the protocol.

Appendix C: Study findings for each domain

Domain and outcome measure	Study sample	Sample size	Mean (standard deviation)		WWC calculations			p-value
			Intervention group	Comparison group	Mean difference	Effect size	Improvement index	
<b>Enrollment (end of 2nd semester of scholarship program)</b>								
<i>Full-time enrollment</i>	Community college students	1,502 students	61%	55%	6%	0.12	+5	< 0.05
<i>Full- or part-time enrollment</i>	Community college students	1,502 students	78%	77%	2%	0.04	+2	> 0.10
<b>Domain average for enrollment</b>						<b>0.08</b>	<b>+3</b>	<b>Not statistically significant</b>
<b>Credit accumulation (end of 2nd semester of scholarship program)</b>								
<i>Credits earned</i>	Community college students	1,502 students	7.00 (5.50)	6.80 (5.50)	0.20	0.03	+1	> 0.10
<i>College-level credits earned</i>	Community college students	1,502 students	5.90 (4.90)	5.60 (4.90)	0.30	0.05	+2	> 0.10
<i>Developmental credits earned</i>	Community college students	1,502 students	1.10 (2.40)	1.20 (2.60)	-0.10	-0.05	-2	> 0.10
<i>Ratio of credits earned to credits attempted</i>	Community college students	1,502 students	0.71	0.72	-0.01	nr	nr	nr
<b>Domain average for credit accumulation</b>						<b>0.01</b>	<b>0</b>	<b>Not statistically significant</b>
<b>Academic achievement (end of 2nd semester of scholarship program)</b>								
<i>Earned a "C" or better in six or more credits</i>	Community college students	1,502 students	57%	57%	< 1%	0.01	0	> 0.10
<i>Term GPA</i>	Community college students	1,111 students	2.60	2.70	-0.10	-0.10	-4	> 0.10
<b>Domain average for academic achievement</b>						<b>-0.04</b>	<b>-2</b>	<b>Not statistically significant</b>

**Table Notes:** Positive results for mean difference, effect size, and improvement index favor the intervention group; negative results favor the comparison group. The effect size is a standardized measure of the effect of an intervention on student outcomes, representing the change (measured in standard deviations) in an average student's outcome that can be expected if the student is given the intervention. The improvement index is an alternate presentation of the effect size, reflecting the change in an average student's percentile rank that can be expected if the student is given the intervention. The WWC-computed average effect size is a simple average rounded to two decimal places; the average improvement index is calculated from the average effect size. The statistical significance of the study's domain average was determined by the WWC; the study is characterized as having an indeterminate effect because none of the contrasts was found to be statistically significant. nr = not reported.

**Study Notes:** Corrections for multiple comparisons were needed for all outcome domains, but did not affect significance levels reported in the study for the individual outcomes. The p-values presented here were reported in the original study. The means, percentages, and p-values reported in this table are from Table B.1 of the manuscript. The standard deviations reported in this table were provided to the WWC by the study authors. The sample sizes for *Term GPA* were provided to the WWC by the study authors. Effect sizes were computed using the mean difference and robust standard errors (which correct for clustering within research cohort and college) reported in Table B.1 of the manuscript. The ratio of credits earned to credits attempted was calculated by the WWC from the means reported in Table B.1 of the manuscript.

Appendix D: Supplemental findings by domain

Domain and outcome measure	Study sample	Sample size	Mean (standard deviation)		WWC calculations			p-value
			Intervention group	Comparison group	Mean difference	Effect size	Improvement index	
<b>1st semester enrollment: during program (end of 1st semester of scholarship program)</b>								
<i>Full-time enrollment</i>	Community college students	1,502 students	78%	74%	4%	0.10	+4	< 0.10
<i>Full- or part-time enrollment</i>	Community college students	1,502 students	96%	95%	1%	0.04	+1	> 0.10
<b>3rd semester enrollment: one semester after scholarship program</b>								
<i>Full-time enrollment</i>	Community college students	1,502 students	44%	41%	3%	0.05	+2	> 0.10
<i>Full- or part-time enrollment</i>	Community college students	1,502 students	62%	61%	1%	0.02	+1	> 0.10
<b>4th semester enrollment: two semesters after scholarship program</b>								
<i>Full-time enrollment</i>	Community college students	1,502 students	34%	30%	4%	0.09	+3	> 0.10
<i>Full- or part-time enrollment</i>	Community college students	1,502 students	51%	50%	1%	0.04	+1	> 0.10
<b>1st semester credit accumulation: during program (end of 1st semester of scholarship program)</b>								
<i>Credits earned</i>	Community college students	1,502 students	8.90 (5.00)	8.40 (5.10)	0.50	0.09	+3	< 0.05
<i>College-level credits earned</i>	Community college students	1,502 students	6.20 (4.20)	5.80 (4.20)	0.40	0.10	+4	< 0.10
<i>Developmental credits earned</i>	Community college students	1,502 students	2.70 (3.50)	2.50 (3.50)	0.20	0.03	+1	> 0.10
<i>Ratio of credits earned to credits attempted</i>	Community college students	1,502 students	0.71	0.69	0.02	nr	nr	nr
<b>3rd semester credit accumulation: one semester after scholarship program</b>								
<i>Credits earned</i>	Community college students	1,502 students	5.50 (5.60)	5.20 (5.50)	0.30	0.05	+2	> 0.10
<i>College-level credits earned</i>	Community college students	1,502 students	5.00 (5.30)	4.70 (5.10)	0.30	0.05	+2	> 0.10
<i>Developmental credits earned</i>	Community college students	1,502 students	0.50 (1.60)	0.50 (1.60)	0.00	0.00	0	> 0.10

<i>Ratio of credits earned to credits attempted</i>	Community college students	1,502 students	0.73	0.72	0.01	nr	nr	nr
<b>4th semester credit accumulation: two semesters after scholarship program</b>								
<i>Credits earned</i>	Community college students	1,502 students	4.10 (5.20)	4.10 (5.10)	0.00	0.00	0	> 0.10
<i>College-level credits earned</i>	Community college students	1,502 students	3.80 (4.90)	3.70 (4.80)	0.10	0.02	+1	> 0.10
<i>Developmental credits earned</i>	Community college students	1,502 students	0.30 (1.30)	0.40 (1.60)	-0.10	-0.05	-2	> 0.10
<i>Ratio of credits earned to credits attempted</i>	Community college students	1,502 students	0.68	0.73	-0.05	nr	nr	nr
<b>1st semester academic achievement: during program (end of 1st semester of scholarship program)</b>								
<i>Earned a "C" or better in six or more credits</i>	Community college students	1,502 students	71%	71%	< 1%	0.02	+1	> 0.10
<i>Term GPA</i>	Community college students	1,312 students	2.60 (1.00)	2.60 (1.00)	0.00	0.00	0	> 0.10
<b>3rd semester academic achievement: one semester after scholarship program</b>								
<i>Earned a "C" or better in six or more credits</i>	Community college students	1,502 students	44%	44%	0%	0.00	0	> 0.10
<i>Term GPA</i>	Community college students	888 students	2.70 (1.00)	2.60 (1.00)	0.10	0.10	+4	> 0.10
<b>4th semester academic achievement: two semesters after scholarship program</b>								
<i>Earned a "C" or better in six or more credits</i>	Community college students	1,502 students	33%	34%	-1%	-0.02	-1	> 0.10
<i>Term GPA</i>	Community college students	729 students	2.60 (1.10)	2.60 (1.00)	0.00	0.00	0	> 0.10

**Table Notes:** Positive results for mean difference, effect size, and improvement index favor the intervention group; negative results favor the comparison group. The effect size is a standardized measure of the effect of an intervention on student outcomes, representing the change (measured in standard deviations) in an average student's outcome that can be expected if the student is given the intervention. The improvement index is an alternate presentation of the effect size, reflecting the change in an average student's percentile rank that can be expected if the student is given the intervention. nr = not reported.

**Study Notes:** The *p*-values presented here were reported in the original study. The means, percentages, and *p*-values reported in this table are from Table B.1 of the manuscript. The standard deviations reported in this table were provided to the WWC by the study authors. The sample sizes for *Term GPA* were provided to the WWC by the study authors. Effect sizes were computed using the mean difference and robust standard errors (which correct for clustering within research cohort and college) reported in Table B.1 of the manuscript. The ratio of credits earned to credits attempted was calculated by the WWC from the means reported in Table B.1 of the manuscript.

### Endnotes

<sup>1</sup> Single study reviews examine evidence published in a study (supplemented, if necessary, by information obtained directly from the author[s]) to assess whether the study design meets WWC evidence standards. The review reports the WWC's assessment of whether the study meets WWC evidence standards and summarizes the study findings following WWC conventions for reporting evidence on effectiveness. This study was reviewed using the Postsecondary Education topic area protocol, version 2.0. A quick review of this study was released on January 16, 2013, and this report is the follow-up review that replaces that initial assessment.

<sup>2</sup> The study authors focused on the effectiveness of the combined scholarship group for their primary analyses, although they also reported supplementary results for the summer scholarship group. This single study review focuses on the combined scholarship group to be consistent with the primary focus of the study (see p. 30 of the report).

<sup>3</sup> The study also provided results for part-time enrollment and credits attempted each semester. Part-time enrollment was not included in this report because effect sizes computed on part-time enrollment would have combined full-time enrollees with non-enrollees and, as such, is not an eligible outcome as specified in the protocol. Credits attempted were not included in this report because they are not eligible outcomes as specified in the protocol. In addition, the cumulative outcomes (Table 3.2) are not reported here because the WWC elected not to combine periods during which the intervention was offered (semesters 1 and 2) with periods during which the intervention was not offered (semesters 3 and 4).

<sup>4</sup> The study reported results at the end of each of four main (fall or spring) semesters, at the end of the first summer semester, and cumulatively over the four semesters of the study. The results reported in Appendix C were assessed at the end of the second semester of the scholarship program and are the closest to the end of the program, although a portion of the students in the summer scholarship condition were still eligible for one additional summer semester of scholarships.

<sup>5</sup> The Postsecondary Education topic area protocol (version 2.0) identifies the ratio of credits attempted to credits earned as an eligible outcome. The study did not report this outcome, but the WWC computed the ratios from data reported in the study report.

### Recommended Citation

U.S. Department of Education, Institute of Education Sciences, What Works Clearinghouse. (2013, June). *WWC review of the report: Can scholarships alone help students succeed? Lessons from two New York City community colleges*. Retrieved from <http://whatworks.ed.gov>

### Glossary of Terms

<b>Attrition</b>	Attrition occurs when an outcome variable is not available for all participants initially assigned to the intervention and comparison groups. The WWC considers the total attrition rate and the difference in attrition rates across groups within a study.
<b>Clustering adjustment</b>	If intervention assignment is made at a cluster level and the analysis is conducted at the student level, the WWC will adjust the statistical significance to account for this mismatch, if necessary.
<b>Confounding factor</b>	A confounding factor is a component of a study that is completely aligned with one of the study conditions, making it impossible to separate how much of the observed effect was due to the intervention and how much was due to the factor.
<b>Design</b>	The design of a study is the method by which intervention and comparison groups were assigned.
<b>Domain</b>	A domain is a group of closely related outcomes.
<b>Effect size</b>	The effect size is a measure of the magnitude of an effect. The WWC uses a standardized measure to facilitate comparisons across studies and outcomes.
<b>Eligibility</b>	A study is eligible for review if it falls within the scope of the review protocol and uses either an experimental or matched comparison group design.
<b>Equivalence</b>	A demonstration that the analysis sample groups are similar on observed characteristics defined in the review area protocol.
<b>Improvement index</b>	Along a percentile distribution of students, the improvement index represents the gain or loss of the average student due to the intervention. As the average student starts at the 50th percentile, the measure ranges from -50 to +50.
<b>Multiple comparison adjustment</b>	When a study includes multiple outcomes or comparison groups, the WWC will adjust the statistical significance to account for the multiple comparisons, if necessary.
<b>Quasi-experimental design (QED)</b>	A quasi-experimental design (QED) is a research design in which subjects are assigned to intervention and comparison groups through a process that is not random.
<b>Randomized controlled trial (RCT)</b>	A randomized controlled trial (RCT) is an experiment in which investigators randomly assign eligible participants into intervention and comparison groups.
<b>Single-case design (SCD)</b>	A research approach in which an outcome variable is measured repeatedly within and across different conditions that are defined by the presence or absence of an intervention.
<b>Standard deviation</b>	The standard deviation of a measure shows how much variation exists across observations in the sample. A low standard deviation indicates that the observations in the sample tend to be very close to the mean; a high standard deviation indicates that the observations in the sample are spread out over a large range of values.
<b>Statistical significance</b>	Statistical significance is the probability that the difference between groups is a result of chance rather than a real difference between the groups. The WWC labels a finding statistically significant if the likelihood that the difference is due to chance is less than 5% ( $p < 0.05$ ).
<b>Substantively important</b>	A substantively important finding is one that has an effect size of 0.25 or greater, regardless of statistical significance.

Please see the [WWC Procedures and Standards Handbook \(version 2.1\)](#) for additional details.