

**Appendix A: Research details for Murphy et al. (2010)**

Murphy, T. E., Gaughan, M., Hume, R., & Moore, S. G. Jr. (2010). College graduation rates for minority students in a selective technical university: Will participation in a summer bridge program contribute to success? *Educational Evaluation and Policy Analysis, 32*(1), 70–83. doi: 10.3102/0162373709360064

**Table A. Summary of findings**

Outcome domain	Sample size	Study findings	
		Average improvement index (percentile points)	Statistically significant
Degree attainment (college)	2,222 students	+4	Yes

**Setting** The study took place at a selective technical university in the southeastern United States.

**Study sample** The *summer bridge program* was available to all first-time fall matriculants enrolled at a selective technical university in the southeastern United States between 1990 and 2000. The analytic sample included 770 students who participated in the *summer bridge program* and 1,452 students who did not enroll in the program. Demographically, 38% of the intervention group and 31% of the comparison group were female. The percentage of African-American participants was 80% in the intervention group and 56% in the comparison group. The median neighborhood household income for participants in the intervention group was \$46,646 (in 2000 dollars) and \$49,450 for those in the comparison group. Baseline equivalence of the intervention and comparison groups was established for the following student characteristics specified in the review protocol: students' high-school grade point average and median household income.

**Intervention group** The *summer bridge program* was implemented in the summer before postsecondary enrollment and delivered over the course of 5 weeks in June and July. The program included an academic component and a social component. The academic component included short courses in calculus, chemistry, computer science, and English composition. This coursework was not credit-bearing but was equivalent to the content of freshman-level courses. Participants were graded on their coursework. The intervention also included peer educators or coaches. These were more advanced students who were leaders on campus and who made themselves available to the intervention participants. The social component of the intervention involved integrating families by having family support sessions and awards luncheons that included family members.

**Comparison group** Students assigned to the comparison group did not participate in the *summer bridge program*, but received standard services as usual. Students were free to participate in any other standard university services.

**Outcomes and measurement** Researchers reported one outcome eligible for review under the protocol: graduation from college, which falls in the degree attainment (college) domain. Graduation data were derived from the university's official records and used to measure whether or not students graduated from the university during the follow-up period. All students included in the analytic sample had a minimum of 5 calendar years of follow-up data available, to allow sufficient time for graduation to occur. For a more detailed description of this outcome measure, see Appendix B.

The researchers did not report any other outcomes.

**Support for implementation** The researchers did not report any information on support for implementation.

### Appendix B: Outcome measure for the degree attainment (college) domain

#### Degree attainment (college)

##### *Graduation*

Taken from institutional administrative records, this binary outcome assesses whether students graduated from the university at follow-up (as cited in Murphy et al., 2010). A minimum follow-up time of 5 calendar years was used to allow sufficient time for each participant to graduate (with most students at the university graduating within 5 years). Time to graduation ranged from 3–16 years in the analytic sample.

Appendix C: Findings included in the rating for the degree attainment (college) domain

Outcome measure	Study sample	Sample size	Mean (standard deviation)		WWC calculations			p-value
			Intervention group	Comparison group	Mean difference	Effect size	Improvement index	
<b>Murphy et al., 2010<sup>a</sup></b>								
<i>Graduation</i>	College students	2,222	70%	67%	3%	0.11	+4	.006
<b>Domain average for degree attainment (college) (Murphy et al., 2010)</b>								<b>na</b>

**Table Notes:** For mean difference, effect size, and improvement index values reported in the table, a positive number favors the intervention group and a negative number favors the comparison group. The effect size is a standardized measure of the effect of an intervention on outcomes, representing the average change expected for all individuals who are given the intervention (measured in standard deviations of the outcome measure). The improvement index is an alternate presentation of the effect size, reflecting the change in an average individual's percentile rank that can be expected if the individual is given the intervention. Some statistics may not sum as expected due to rounding. na = not applicable.

<sup>a</sup> For Murphy et al. (2010), no corrections for clustering or multiple comparisons and no difference-in-differences adjustments were needed. The p-value presented here was reported in the original study. The study authors used a Cox proportional hazards model to estimate the effect of the intervention on students' hazard of graduating from college. Proportions presented were provided by the study authors. Effect sizes are computed as a Cox's index: logged-odds ratio transformation divided by 1.65. See the WWC Standards and Procedures Handbook (version 3.0) for the computation of effect sizes for binary outcomes. This study is characterized as having a statistically significant positive effect because the effect for at least one measure within the domain is positive and statistically significant, and no effects are negative and statistically significant. For more information, please refer to the WWC Standards and Procedures Handbook (version 3.0), p. 26.

### Endnotes

<sup>1</sup> The descriptive information for this program was obtained from Murphy et al. (2010). The WWC requests developers review the program description sections for accuracy from their perspective. Further verification of the accuracy of the descriptive information for this program is beyond the scope of this review.

<sup>2</sup> The literature search reflects documents publicly available by August 2015. The studies in this report were reviewed using the Standards from the WWC Procedures and Standards Handbook (version 3.0), along with those described in the Supporting Postsecondary Success review protocol (version 3.0). The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.

<sup>3</sup> For criteria used in the determination of the rating of effectiveness and extent of evidence, see the WWC Rating Criteria on p. 20. These improvement index numbers show the average and range of student-level improvement indices for all findings across the studies.

### Recommended Citation

U.S. Department of Education, Institute of Education Sciences, What Works Clearinghouse. (2016, July). *Supporting Postsecondary Success intervention report: Summer bridge programs*. Retrieved from <http://whatworks.ed.gov>