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WWC Review of the Report "Information and College Access: Evidence from a Randomized Field Experiment"[1]

The findings from this review do not reflect the full body of research evidence on the effects of providing high school students with information about college costs and returns on college enrollment.

What is this study about?

The study examined the impact of offering financial aid informational materials on the postsecondary expectations of high school students.

Approximately 5,000 students from five low-achieving high schools in Ontario, Canada were invited to complete an online survey about their postsecondary aspirations. About 1,600 students did so, and after completing the survey, were randomly assigned to one of two groups.

Students in the intervention group were first shown an online 3-minute video about the costs and typical yearly earnings associated with postsecondary education. Next, students were invited to try out a financial aid calculator to help estimate their college costs. Finally, students were given the financial aid application package for local postsecondary institutions, along with instructions on how to apply for aid.

Students in the comparison group did not receive any of the informational materials described above.

The study measured the impact of offering these materials on student postsecondary expectations 3 weeks after the intervention.[2]

Features of Providing Information About College Costs and Returns

The authors of this study designed an intervention to address their belief that low-income students often underestimate the economic value and overestimate the costs of postsecondary education. The intervention had three parts, all of which were delivered via the Internet:

- a short video that was designed to convey information about typical earnings at different levels of educational attainment, the expected costs of postsecondary education, and financial aid eligibility;
- a financial aid calculator that allowed students to estimate the value of grant and loan funding for which they might be eligible; and
- the financial aid application packages for local postsecondary institutions, along with instructions on how to apply for aid.

What did the study find?

The authors reported, and the WWC confirmed, a statistically significant impact of offering the informational materials on the educational expectations of the high school students in the study, with a larger percentage of students in the intervention group expecting to attend postsecondary education (88%) than in the comparison group (82%). The strongest effects were observed 3 weeks after the intervention for students who reported being unsure about their postsecondary plans before the intervention (64% in the intervention group vs. 42% in the comparison group). There was also a statistically significant difference between the intervention and comparison groups for students who were initially certain that they would attend a postsecondary institution (93% in the intervention group reported that they would attend a postsecondary institution during the second survey, vs. 89% in the comparison group).

WWC Rating

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

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

Cautions: This study measured postsecondary enrollment expectations, not actual enrollment.

Appendix A: Study details

Oreopoulos, P., & Dunn, R. (2012). *Information and college access: Evidence from a randomized field experiment* (NBER Working Paper No. 18551). Retrieved from http://www.nber.org/papers/w18551

Setting

The study was conducted in five low-achieving public high schools located in low-income neighborhoods in Toronto, Canada. All five high schools were in the bottom tenth percentile of schools in Ontario in terms of average student achievement. The study authors assert that typically, about 30% of the students in these five high schools attend a postsecondary institution immediately after graduation.

Study sample

All students in the five high schools were invited to participate (n = 5,017) and were offered a $20 honorarium for completing two online surveys. The analytic sample was comprised of 1,616 students in grades 9–12 who completed both surveys and had been randomly assigned to either the intervention group (n = 811) or the comparison group (n = 805). About 52% of students in the analysis sample were female. Prior to the intervention, 12% of the students reported being unsure about their postsecondary enrollment plans.

Intervention group

Students in the intervention group were first shown an online 3-minute video about the costs and typical yearly earnings associated with postsecondary education. Next, students were invited to try out an online financial aid calculator to help estimate their college costs. Finally, students were given an online financial aid application package for local postsecondary institutions, along with instructions on how to apply for aid. The typical intervention group student spent about three minutes viewing the informational materials.

Comparison group

Students in the comparison group did not receive the informational materials that were provided to the intervention group.

Outcomes and measurement

Three weeks after completing the first survey (and, for the students in the intervention group, viewing the informational materials), study authors measured students' educational expectations by administering a second survey. For a more detailed description of the survey question used, see Appendix B.

Support for implementation

The study authors did not provide detail on the development of the online materials or on any needed support (e.g., technical support). The study authors did provide evidence that the intervention was implemented relatively well. They reported that the median amount of time spent on the web page was highly similar to the length of the video, suggesting that the typical student played much of the video.

Reason for review

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

Appendix B: Outcome measure for the postsecondary enrollment domain

Postsecondary enrollment	
Educational expectations	This outcome is based on a single survey question that asks students to report whether they expect not to pursue postsecondary education, whether they expect to attain a community college (i.e., 2-year) degree, or whether they expect to attain a university (i.e., 4-year) degree. For this analysis, the study authors estimated the percentage of students in the intervention and comparison groups who reported expecting to attain any postsecondary degree.

Appendix C: Study findings for the postsecondary enrollment 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	
Postsecondary enrollment								
Educational expectations	Full sample	5 schools/ 975 students	0.88 (0.32)	0.82 (0.38)	6%	0.16	+6	< 0.05
Domain average for postsecondary enrollment						**0.16**	**+6**	**Statistically significant**

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.

Study Notes: No corrections for clustering or multiple comparisons were needed. The data are based on means and standard errors obtained from the study authors. The *p*-value presented here was computed by the WWC. The study authors applied statistical controls for student gender, whether the student was born in Canada, last year's self-reported grades, parental education, whether the student had thought about dropping out of school, whether the student believed that the Canadian government guarantees postsecondary access, and expected highest degree earned (pre-intervention). The group means and the mean difference are adjusted for the variables listed above but the standard deviations are not. Please see the WWC Handbook version 2.1 for more information. The standard deviations are based on robust standard errors (that correct for clustering at the high school level) provided by the study authors.

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	
Postsecondary enrollment								
Educational expectations	Unsure about educational attainment (pre-intervention)	5 schools/ 101 students	0.64 (0.48)	0.42 (0.49)	22%	0.45	+17	< 0.05
Educational expectations	Expecting not to complete more than high school (pre-intervention)	5 schools/ 25 students	0.63 (0.48)	0.46 (0.50)	17%	0.31	+12	0.45
Educational expectations	Expecting to complete college or university (pre-intervention)	5 schools/ 849 students	0.93 (0.25)	0.89 (0.31)	4%	0.15	+6	< 0.05

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.

Study Notes: A correction for clustering was not needed. A correction for multiple comparisons was needed but did not affect significance levels; therefore, the *p*-values presented here are the values that were reported in the original study. The sample sizes were provided by the study authors. The study authors applied statistical controls for student gender, whether the student was born in Canada, last year's self-reported grades, parental education, whether the student had thought about dropping out of school, whether the student believed that the Canadian government guarantees postsecondary access, and expected highest degree earned (pre-intervention). The group means and the mean differences are adjusted for the variables listed above but the standard deviations are not. Please see the WWC Handbook version 2.1 for more information. The standard deviations are based on robust standard errors (that correct for clustering at the high school level) given in the report.

The analysis of educational aspirations for the group that was unsure about educational attainment (pre-intervention) experienced a relatively high degree of attrition (47% overall, 43% in the intervention group, and 53% in the comparison group). The report provides evidence that the analytic samples were comparable in terms of their academic achievement (and several other variables). For the other analyses, the amount of attrition was relatively low.

Endnotes

[1] 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 review protocol, version 2.0. A quick review of this study was released on January 8, 2013, and this report is the follow-up review that replaces that initial assessment. The WWC rating applies only to the results that were eligible under this topic area and met WWC standards without reservations or met WWC standards with reservations, and not necessarily to all results presented in the study (see Note 2 below).

[2] The study authors measured several other outcomes. These were: (a) expected earnings at age 35 for high school graduates, community college graduates, and university graduates; (b) the ratio of college to high school expected earnings and university to college expected earnings; (c) several measures of financial aid expectations; (d) whether students sought additional information; and (e) expected end-of-year grades. These outcomes were not included in this report because they are not identified as eligible outcomes in the Postsecondary Education topic area protocol.

Recommended Citation

U.S. Department of Education, Institute of Education Sciences, What Works Clearinghouse. (2013, July). *WWC review of the report: Information and college access: Evidence from a randomized field experiment*. Retrieved from http://whatworks.ed.gov

Glossary of Terms

Attrition 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.

Clustering adjustment 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.

Confounding factor 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.

Design The design of a study is the method by which intervention and comparison groups were assigned.

Domain A domain is a group of closely related outcomes.

Effect size 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.

Eligibility 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.

Equivalence A demonstration that the analysis sample groups are similar on observed characteristics defined in the review area protocol.

Improvement index 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.

Multiple comparison adjustment When a study includes multiple outcomes or comparison groups, the WWC will adjust the statistical significance to account for the multiple comparisons, if necessary.

Quasi-experimental design (QED) 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.

Randomized controlled trial (RCT) A randomized controlled trial (RCT) is an experiment in which investigators randomly assign eligible participants into intervention and comparison groups.

Single-case design (SCD) 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.

Standard deviation 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.

Statistical significance 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% ($p < 0.05$).

Substantively important 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.